Skeena District

Management Plan Background Report

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Draft

for Stikine Country Protected Areas

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STIKINE COUNTRY PROTECTED AREAS
TECHNICAL BACKGROUND INFORMATION SUMMARY

Preface

The Stikine Country Protected Areas Technical Background Information Summary is a compilation of technical information in preparation for the management planning process. Relevant information will be incorporated directly into the Stikine Country Protected Areas Management Plan. The summary has been prepared in cooperation with the Tahltan First Nation.

The summary covers all existing provincial parks situated in the middle and upper Stikine River region, protected areas and protected area additions proposed for that region by the Cassiar Iskut-Stikine (CIS) Land and Resources Management Plan (LRMP), and the Mt. Edziza Zone (formerly the Mt. Edziza Recreation Area). Although the Mt. Edziza Zone is not a protected area, it is an integral component of the Mt. Edziza ecosystem and is an essential part of the discussion for Mt. Edziza Park.

The CIS LRMP proposed new protected areas, additions to existing protected areas and adjustments to the boundary of the former Stikine River Recreation Area and upgrading the Stikine River Recreation Area to Class A Park status. For ecological and administrative reasons, BC Parks is proposing to realign the Spatsizi Plateau Wilderness Park boundary to include the Mount Brock portion of the Upper Stikine/Spatsizi Extension proposed by the CIS LRMP.

The analysis contained in this report is based upon the proposed protected area boundaries as at May 2000. The final protected area boundaries are slightly different from those used in this report, specifically those for the Stikine River Park and the Klastline addition. As result some of the area figures in the analyses presented may be slightly higher, in the order of about 3000 ha than if based on the final protected area boundaries.

The following protected areas have recently been added to the Stikine protected area planning process and are not included in this analysis: Ningunsaw River Park and Ecological Reserve, Tuya Mountains Provincial Park, Great Glacier Provincial Park, Craig Headwaters Protected Area, Lava Forks Provincial Park, Boya Lake Provincial Park, Border Lake Provincial Park, Choquette Hotsprings Provincial Park, and Iskut River Hotsprings Provincial Park.

For the purposes of the Stikine Country Protected Areas Technical Background Information Summary, the parks and protected areas are organized into the following units (Figure1):

- Kinaskan Lake Park
- Todagin Mountain Park (CIS LRMP proposal)
- Mount Edziza Park
  - Mount Edziza Park
  - Mess Lake (CIS LRMP proposal)
  - Klastline River (CIS LRMP proposal)
- Mount Edziza Zone
- Stikine River Park
  - Stikine Grand Canyon (CIS LRMP proposal)
  - Upper Stikine/Spatsizi Extension (CIS LRMP proposal)
    - excluding Metsantan and Mt. Brock areas
- Pitman River Protected Area
- Chukachida River Protected Area
- Spatsizi Plateau Wilderness Park
  - Spatsizi Plateau Wilderness Park
  - Metsantan (CIS LRMP proposal)
  - Mt. Brock portion of Upper Stikine/Spatsizi Extension (CIS LRMP proposal)
- Gladys Lake Ecological Reserve
- Spatsizi Headwaters Park

- Tatlatui Wilderness Park

Details and chronology for each protected area is presented in Appendix 1.

The summary is organized into sections listed in the Table of Contents. Wherever possible each section includes an overall discussion for all the protected areas, a table summarizing the information for each protected area, and any significant information specific to a particular protected area.

Information sources included: the BC Parks' Skeena District Protected Areas catalogues, library files, databases and staff; Cassiar-Iskut-Stikine LRMP documents and maps; BC Environment files; BC Lands files; adjacent LRMP documents; and discussions with staff in the Ministry of Environment, Lands, and Parks, the Ministry of Forests, the Ministry of Energy and Mines, Canadian Forest Service and the Geological Survey of Canada (Appendix 2).

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1 NATURAL VALUES

1.1 Physical Features

1.1.1 Climate

The Stikine Country Protected Areas experience a continental climatic regime. Typically the summer is short and cool, while the winters are long and cold. The Coast Mountains remove much of the moisture from the prevailing westerly winds resulting in a rain-shadow effect for most of the Stikine Country Protected Areas. During the winter, temperature inversions can result in colder temperatures in valley bottoms than on the peaks, and chinook winds can result in rapid temperature changes.

Long term climatic data from Dease Lake (1961 to 1990) indicates an average daily temperature of –1.1° Celsius (C) with a range of –22° C to 19.2° C. In July the average maximum daily temperature is 19.2° C and the minimum is 5.8° C. In January, the average maximum daily temperature is –13.1° C and the minimum is –22.5° C. Extreme temperatures have been a low of –51.2° C and a high of 35.3° C. Average rainfall is 255 mm and average snowfall is 227 cm.

Climatic gradients occur throughout the Stikine Country Protected Areas. At lower elevations in the western portion of Stikine River Park climatic conditions are better represented by climatic data from Telegraph Creek with less precipitation and milder winter temperatures. However, in the deep incised portions of the Grand Canyon of the Stikine, temperatures may be colder than above the canyon rim. In the Mt. Edziza area, precipitation appears to be greater in the eastern portion of the park than in the western portion with the exception of the Mess Lake area. For Spatsizi Plateau Wilderness Park, the western mountains and Gladys Lake Ecological Reserve receive more precipitation in the form of snow and rain, and are cooler in the summer and warmer in the winter than the plateau area in the eastern part of the park. Tatlatui Park also experiences a climate gradient from west to east with more precipitation in the western mountains than the plateaus in the eastern part of the park. In general, Tatlatui Park receives more precipitation than the Spatsizi and Stikine areas both in the form of rain and snow. Average snow depth even at low elevations in Tatlatui Park is 1.5 metres.

1.1.2 Physiography and Geology

The Stikine Country Protected Areas are situated in the north central part of British Columbia in the Interior System of the Canadian Cordillera physiographic region (Holland 1976). Stream erosion, glaciation, and volcanic activity are the dominant processes that shaped the landforms in the Stikine area. Stream erosion produced deep incisions and provided most of the relief throughout the plateaus. Glaciers completely covered the area during the Pleistocene; they eroded upland surfaces and deposited a veneer of drift over most of the area. As the glaciers receded characteristic U-shaped valleys were formed and high elevation glaciers shaped most of the jagged ridges and mountain peaks. Volcanic activity occurred predominantly in the Mt. Edziza area, both prior to and since the last Ice Age.

The parks lie within four major subdivisions of the Central Plateau and Mountain Area (Table 1). Due to its linear nature, the Stikine River Park transects five units of three of the subdivisions.

In the west, Mt. Edziza Park, Mt. Edziza Zone and Kinaskan Lake Park are found in the Tahltan Highland. The highland is a transitional zone between the Coast Mountains and the plateaus to the east with relief primarily due to the major rivers and streams. The peaks of Mt. Edziza and the Spectrum Ranges rise to an average elevation of 2100 metres with adjacent valley floors between 150 and 600 metres. Mess Creek forms a deep and narrow canyon near its confluence with the Stikine River and the Klastline River forms a canyon as it flows north to its confluence with the Stikine River. Glacial history is evident in drumlin formations in the Mowdade Lake area. Kinaskan Lake Park is situated in a broad valley at the eastern boundary of the Tahltan Highland. The terrain is mostly flat and the most prominent features center around the Iskut River. Cascade Falls, just below the outlet of Natadesleen Lake, as its name implies cascades down a "staircase" formed by eroded sedimentary rocks.

One of the most significant features of the area is the Mt. Edziza volcanic complex. The complex itself runs in a north-south axis and is part of the Stikine Volcanic Belt that runs roughly parallel to the continental margin through northwestern British Columbia and southern Yukon. The complex is made up of the Mt. Edziza volcano, dissected domes of the Spectrum Range and a series of smaller satellite cones surrounding the main volcano. A rolling upland plateau, bounded by escarpments and cut by steep canyons, surrounds the main peaks of Mt. Edziza (2787m) and Ice Peak. Most of the north slope and western plateau are covered by postglacial cinder cones (Eve Cone, Coffee Crater, Cocoa Crater) and fields of blocky lava and pumice. The Mt. Edziza complex is surrounded by the lower lying valleys of Mess Creek to the east, the Stikine River to the north and the Klastline and Iskut Rivers to the west and its mountain terrain is contiguous with the Arctic Plateau to the south.

Mt. Edziza is a composite shield volcano with most of its mass made up of older sedimentary and volcanic rocks. The "recent" flows form a layer on top. The geological history of Mt. Edziza features a series of volcanic activity periods and spans several periods of glacial advance and retreat. The complex is made up of 13 formations, each the product of a distinct stage of volcanic activity. With each successive period of volcanic activity, the volume of lava has decreased. The peak of Mt. Edziza was formed about 900 000 years ago. At the height of its growth, it rose to a crater at least 600 m higher than the present peak. That summit was likely destroyed during a violent eruption which breached the original crater and which likely formed the current crater. Although glaciation further shaped the peak, Mt. Edziza retains most of its original shape. The eastern rim of the crater is breached by a narrow cirque. The Spectrum Range is older than Mt. Edziza and its brightly coloured slopes are the erosion remnants of the original rhyolite dome complex.

The western portion of Stikine River Park is bisected by the Tanzilla Plateau to the north and the Klastline Plateau to the south. The Tanzilla plateau has low topographic relief and its surface was formed by erosion of closely folded sedimentary and volcanic rocks. The gently rolling surface of the Klastline Plateau was also formed by erosion of sedimentary and volcanic rocks and has been incised by the Stikine and Klappan Rivers. One of the most significant features of this area is the Grand Canyon of the Stikine River. The steep incised lava walls up to 300 metres deep were formed by river erosion after the Stikine River had likely been diverted from its original path by Mt. Edziza lava flows during and since the Pleistocene. The Klastline Plateau also includes the Klastline portion of Mt. Edziza Park and the Mt. Brock portion of Spatsizi Park.

The Skeena Mountains encompass Todagin Mountain Park, Gladys Lake Ecological Reserve and the western portions of Spatsizi and Tatlatui Parks and are made up of folded sedimentary rocks. Mountain ranges and valleys run predominantly in a northwest trend with serrated and jagged peaks formed by alpine glaciation. Limestone and rocks directly of volcanic origin are absent, and the principal rocks are black fine-grained argillite and shale, and dark greywacke. The complex folding throughout Spatsizi Wilderness Park, Gladys Ecological Reserve and Tatlatui Park is the best example of exposed folds in British Columbia other than in the Rocky Mountains and is especially evident on the slopes at the western end of Kitchener Lake. Ammonite fossils have been found throughout the Eaglenest Range and have aided in understanding the complex geology of the area. The mountainous area ranges from about 900 metres in elevation in the valleys to 2350 metres at Nation Peak in the Eaglenest Range in Spatsizi Park and to 2350 m at Melanistic Peak in Tatlatui Park. Spatsizi Mountain with its red-coloured slopes is a significant feature along the Spatsizi River in this area. The Tahltans named the mountain Spatsizi (which means "red goat") after the mountain goats that roll in the red-coloured soil on the mountain.

The eastern portions of Stikine River Park, Spatsizi Plateau Wilderness Park and Tatlatui Park lie within the Spatsizi Plateau. Gently rolling uplands and wide drift-filled valleys characterize the area with elevations ranging from 900 metres in valley bottoms to 2200 metres on higher peaks on the plateaus. Most of the upland plateaus lie between 1400 and 2000 metres. Underlying rock includes sandstone, shale, conglomerate and minor coal of Upper Cretaceous and Paleocene age. The gently rolling terrain is flanked to the west by the Skeena Mountains and to the east by the Omineca Mountains (Swannell Ranges) and the Cassiar Mountains (Stikine Ranges).

Pitman River Protected Area and Chukachida River Protected Area extend east into the Swannell Ranges of the Omineca Mountains and the Stikine Ranges of the Cassiar Mountains. The protected areas are mostly confined to the wide U-shaped valley bottoms in this region.

1.1.3 Hydrology

The hydrology of the Stikine Country Protected Areas is dominated by the Stikine River that flows in a generally westward direction to the Pacific Ocean. The Stikine River forms the main part of the Stikine River Park; this includes the lower elevation areas surrounding the Pitman and Chukachida tributaries. The headwaters of the Stikine River is situated in Spatsizi Park and drains most of the larger lakes in the park (Happy, Tuaton, Laslui, Hotlesklwa, Chapea). Buckinghorse and Klahowya lakes drain into the Spatsizi River, which converges with the Stikine River just north of Hyland Post. Gladys, Cold Fish, Blackfox and Bug Lakes drain into Mink Creek, which empties into the Spatsizi River.

Todagin Creek, which is the southern boundary of Todagin Mountain Park, flows west then north into Tatogga Lake and the Iskut River. The Iskut River passes through Kinaskan Lake and through Natadesleen Lake in Kinaskan Lake Park before flowing south then west to its confluence with the Stikine River near the B.C./Alaska border.

On the eastern side of Mt. Edziza Park, Mowdade, Mowchilla, Kakiddi and Nuttlude lakes form a chain of lakes that are emptied by Kakiddi Creek that flows into the Iskut River. The waters of Buckley Lake on the north slope of the Edziza Plateau drain into the Klastline River, which flows northwest and joins the Stikine River. Mess Lake on the west side of Mt. Edziza drains into the Stikine River via Mess Creek.

The waters of Tatlatui Park are the only waters in the Stikine Country Protected Areas that are not part of the Stikine River system. All the major lakes in Tatlatui Park (Tatlatui, Hoy, Trygve, Kitchener, Stalk) feed into the Firesteel River, which eventually flows through the Finlay River into the Peace River and the Arctic Ocean.

1.1.4 Significant Physical Features

The rich volcanic history of the Mt. Edziza area has resulted in numerous significant features in the area (Table 2). The Mt. Edziza area is rich in obsidian, which is produced by the rapid cooling of molten lava or some liquid fraction of molten lava. Most of the obsidian occurs at relatively high elevations at about 1800 to 1900 metres and was an important source for First Nations people. Two columnar basalt formations are found in the Mt. Edziza area: the Tahltan Eagle at the confluence of the Tahltan and Stikine Rivers and Pipe Organ Mountain within the Mt. Edziza Zone. Both formations display radiating columns of basalt. The Tahltan Eagle is of cultural significance to the Tahltan First Nations. The cultural significance of Pipe Organ Mountain to the Tahltan people is unknown.

Four hotsprings have been identified in the Mt. Edziza area at Elwyn Creek, Taweh Creek, Mess Lake and Mess Creek. Three of the springs (Elwyn, Taweh, Mess Lake) are the only hot springs known in Canada that appear to be related to recent volcanic activity. They are found close to recent eruptive centers and may be a result of discharge from shallow hydrothermal systems driven by residual magmatic heat. Mess Creek Hotsprings lie on a major fault bounding the west side of Mess Creek Valley and may be part of a deeply circulating hydraulic system. The springs range in temperature from 25° to 45° Celsius and are diluted with varying amounts of cooler water from creeks and runoff. Elwyn Creek, Taweh Creek and Mess Lake exhibit tufa deposits. The Elwyn Creek springs consist of six springs (two warm, four cold) forming three large pools at the head of the creek with tufa formations in mounds and terraced benches along the creek valley. Taweh Creek has extensive tufa formations along a 650-metre stretch of the creek. Mess Creek consists of two principal vents at the base of a 20-metre cliff that form a pool approximately 200 m^2 and one metre deep. The Mess Lake hotsprings have produced tufa deposits that cascade down gentle hillslopes and through lowlands covering over 120 hectares. Deposits around recent vents indicate that discharge likely took place as a geyser. One of the fossil vents stands approximately 10 metres high. In 1965, the Mess Lake hotsprings exhibited vigorous flow. By 1974 the

Table 1. Physiographic subdivisions of the Stikine Country Protected Areas.

Physiographic Subdivision	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
SKEENA MOUNTAINS											
Skeena Mountains		X						X	X	X	X
STIKINE PLATEAU											
Spatsizi Plateau					X	X		X			X
Klastline Plateau			X		X			X			
Tanzilla Plateau					X						
Tahltan Highland	X		X	X							
CASSIAR MOUNTAINS											
Stikine Ranges					X	X	X				
OMINECA MOUNTAINS											
Swannell Ranges					X		X				

Table 2. Significant physical features of the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
Water features	Cascade Falls		Mess Creek Canyon Nuttludde, Kakiddi etc lakes.		Grand Canyon of the Stikine River			Stikine River			
Hotsprings			Taweh Creek Elwyn Creek Mess Creek Mess Lake								
Physical features			Tahltan Eagle Raspberry Pass	Pipe Organ Mountain				Complex folds (Eaglenest Range); Spatsizi (Red Goat) Mountain	Complex folds (Eaglenest Range)	Complex folds	
Fossils								Ammonites (Eaglenest Range)	Ammonites (Eaglenest Range)		
Volcanic features			Mt. Edziza Eve Cone Coffee Crater Cocoa Crater Spectrum Range Obsidian		Lava formations in the Canyon						

discharge rate was a trickle and by 1983 both the vents and adjacent terrace pools were dry. In 1999, the some of the terrace pools contained water but the main vents were dry.

1.2 Biological Features

1.2.1 Vegetation

The Stikine Country Protected Areas consist primarily of boreal, subalpine and alpine vegetation. Vegetation features are diverse ranging from dry grassland slopes at 300 metres in Stikine River Park to lichens and hardy alpine plants at elevations over 2000 metres in Mt. Edziza, Spatsizi and Tatlatui Parks and Gladys Lake Ecological Reserve. Forests of spruce and pine carpet lower elevations with subalpine fir dominating at higher elevations. Cold winters, short growing seasons and poorly developed soils affect the distribution and composition of vegetation communities within the protected areas.

1.2.1.1 Biogeoclimatic Zones

In B.C., the Biogeoclimatic Ecosystem Classification system is used to describe vegetation ecosystems based on climate, topography and soil characteristics with climate being the most important factor affecting the distribution of vegetation. Regional climate is used as the basis for classifying vegetation patterns into biogeoclimatic zones or subzones. Five biogeoclimatic zones and subzones occur within the Stikine Country Protected Areas (Table 3, Figure 2). The Boreal White and Black Spruce (BWBS) zone consists primarily of spruce and pine forests and occupies low elevation areas within the Stikine Country Protected Area system. The Spruce Willow Birch (SWB) zone is found above the Boreal White and Black Spruce zone and ranges from spruce dominated forests at lower elevations to subalpine fir forests and open woodlands and finally to mixed deciduous and coniferous shrubs at upper elevations. Above the Spruce Willow Birch zone the Alpine Tundra (AT) zone consists of shrubs less than one metre in height at lower elevations that gradually disappear moving upslope where grasses, forbs and lichens become dominant. The Engelmann Spruce Subalpine Fir (ESSF) zone occurs below the Alpine Tundra zone in the southern half of Mt. Edziza Park and in Spatsizi Headwaters Park. This zone consists of subalpine fir forests at low elevation which transition into open subalpine fir parkland further upslope. Below the Engelmann Spruce Subalpine Fir zone the Sub-Boreal Spruce (SBS) zone occupies low elevation valley bottoms along Mess and Kakiddi Creeks.

Boreal White and Black Spruce Zone

The Boreal White and Black Spruce zone is well represented throughout the Stikine Country Protected Areas as the Stikine variant of the dry, cool subzone (dk1). The BWBSdk1 occurs primarily on the lower elevation (500 - 1050 metres) flat and rolling plateaus and river valleys. Forests are dominated by white spruce (*Picea glauca*), lodgepole pine (*Pinus contorta*) and trembling aspen (*Populus tremuloides*) with minor amounts of subalpine fir (*Abies lasiocarpa*), black spruce (*Picea mariana*), balsam poplar (*Populus balsamifera* ssp. *balsamifera*), and paper birch (*Betula papyrifera*). The northern continental climate experiences frequent arctic air masses, with very cold, long winters and warm, short, dry summers. Winter conditions are highly variable due to temperature inversions, Chinook winds, rainshadows and North/South aspect differences. Dominant soils are moderately developed (Brunisolic Gray Luvisols and Dystric Brunisols with Hemimors more than 10 cm thick).

Spruce Willow Birch Zone

The Spruce Willow Birch zone is the most extensive biogeoclimatic zone in the Stikine Country Protected Areas. It occurs on gently rolling plateaus to steep mountain slopes above the BWBS and ranges in elevation between 1000 and 1600 metres. White spruce and subalpine fir are the primary tree species that make up the forest canopy. At lower elevations forests are typically open to closed canopy forests of white spruce with variable amounts of lodgepole pine, trembling aspen and black spruce. Above that, subalpine fir is dominant. The highest elevations in the SWB zone consist of 1-4 metre tall deciduous shrubs, mainly scrub birch (*Betula glandulosa*) and willows (*Salix* sp.). Very long cold winters with frequent arctic air masses and very short, cool summers characterize the northern interior subalpine climate. Cold air ponding in some wide, high elevation valleys produces a mosaic of shrubs, fens and Altai fescue grassland at the valley bottom with a fringe of coniferous forest on lower slopes, and shrubs higher up the slope. Soils are predominantly moderately developed (Humo-Ferric Podzols and Eutric (high pH) and Dystric (low pH) Brunisols with Hemimors and Mormoders).

Engelmann Spruce Subalpine Fir Zone

The Engelmann Spruce Subalpine Fir zone is limited in range in the Stikine Country Protected Areas and only occurs at higher elevations (900-1550 metres) in the southern half of Mt. Edziza Park and Zone and in two other small pockets in the northwest portion of Tatlatui Park (50 ha) and in Spatsizi Headwaters Park (85 ha). The ESSFwv (wet very cold) subzone is found in Mt. Edziza Park where forests are predominantly subalpine fir with minor occurrences of mountain hemlock (*Tsuga mertensiana*), hybrid white spruce (*Picea glauca* x *engelmannii*) and western hemlock (*Tsuga heterophylla*). The understorey tends to be dominated by heath. At higher elevations, closed canopy forests turn into subalpine parkland where a mosaic of tree clumps and open areas of heath and wetlands occur. The interior subalpine climate characteristically has long, cold snowy winters and short, cool, wet summers. An already short growing season is further limited by the heavy snowpack. Dominant soils are Ferro-Humic Podzols with Hemihumimor humus forms that are 5-15 cm thick. The ESSFmc (moist cold) subzone is found in Tatlatui and Spatsizi Headwaters parks. Forests are made up of primarily subalpine fir, hybrid white spruce and lodgepole pine and the climate is more continental than in the ESSFwv with cold winters, cool, fairly dry summers and a light snowpack. Soils are typically Humo-Ferric Podzols and Podzolic Gray Luvisols with Hemimor humus forms that are 2-7 cm thick.

Sub-Boreal Spruce Zone

In the Stikine Country Protected Areas, the Sub-Boreal Spruce zone is found only in low-lying valleys (less than 800 metres) along Kakiddi and Mess Creeks within Mt. Edziza Park and Zone. The forests are primarily made up of hybrid white spruce, subalpine fir, black cottonwood, paper birch and to a lesser extent, lodgepole pine and trembling aspen. Climatic features include a longer growing season, a greater accumulation of growing degree-days, warmer soils, and more moisture than the adjacent BWBS. The presence of devil's club also differentiates this zone from the BWBS where devil's club is uncommon.

Alpine Tundra Zone

The Alpine Tundra zone occurs at high elevations above 1000 to 1600 metres on mountain slopes and plateaus and is distributed widely throughout the Stikine Country Protected Areas. Only Kinaskan Lake Park does not contain any Alpine Tundra. By definition the alpine tundra zone occurs above treeline although the division between shrubby ecosystems in the upper reaches of the SWB zone and the AT zone has been defined as shrub and krummholz of one metre in height. Shrub and stunted conifer vegetation is predominantly subalpine fir, white spruce, scrub birch (*Betula glandulosa*) and willows. The grassy, Altai fescue and lichen community is very extensive, especially on the high alpine plateaus of the Spatsizi Plateau, eastern Spatsizi Park, eastern Tatlatui Park, and Mt. Edziza Park. The severe alpine climate is characterized as cold, windy and snowy with a very short growing season. Soils tend to be thin, rocky and weakly developed (Orthic and Humic Regosols and Brunisols, with Rhizomull, Hemimor and Mormoder humus forms). Permafrost influenced soils (Turbic and Organic Cryosols) are locally common at high elevation or on north aspects where subsurface drainage is impeded.

Within each biogeoclimatic zone, individual plant communities vary from dry nutrient poor sites to wet rich sites. Pojar (1986) described vegetation communities in the Gladys Lake Ecological Reserve. He found 21 communities in the Spruce Willow Birch biogeoclimatic zone (8 forest communities, seven shrub dominated communities, five herb communities, one complex of cryptogamic communities) and over 14 communities in the Alpine Tundra zone (three shrub dominated communities, three heath communities, three dwarf deciduous communities, three grassland communities, one mossy seepage community, one lichen fellfield community, several additional communities characteristic of certain terrain units). Banner et al. (1993) describe 11 site series (sites capable of producing the same mature or climax plant communities within a biogeoclimatic subzone or variant) for the ESSFwv and 14 site series for the BWBSdk1. Site series have not yet been developed for the SWB or AT zones.

1.2.1.2 Forest Cover

The forest cover section will be completed when GIS is completed and will include Table 4 and Figure 3

Table 3. Biogeoclimatic subzone and variant composition within the Stikine Country Protected Areas.

Biogeoclimatic Subzone/ Variant	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
SBS			19839	620							
ESSFwv			50291	2149							
ESSFmc										50	85
BWBSdk1	1800	235	61502		134420	6921	986	49112			
SWB		2392	45598		113802	9157	17420	341973	12202	48372	
AT		862	89761	664	5745	233	995	314396	30230	55024	320
Total	1800	3490	266991	3433	253967	16311	19401	705481	42432	103446	405

Table 4. Forest cover composition within the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
Mature											
Pine											
Spruce											
Subalpine fir											
Pine/Spruce											
Spruce/Fir											
Deciduous/conifer											
Total Mature											
Immature											
Pine											
Spruce											
Subalpine Fir											
Pine/Spruce											
Spruce/Fir											
Deciduous/conifer											
Total Immature											
Non-forested											
Scrub/wetlands											
Alpine											
Talus											
Lakes											

1.2.1.3 Ecoregion Representation

The Ecoregion classification system was developed to define geographic areas of ecological similarity. At the highest level the province was divided into large physiographic units based primarily on landform and climate. The smallest subsection of the classification system is the ecosection, which is distinctive in physiography, hydrology, vegetation and wildlife. The Stikine Country Protected Areas occur within six of the province's 100 land based ecosections (Table 5, Figure 4, Appendix 3).

The bulk of the Stikine Country Protected Areas (88%) lies within the Southern Boreal Plateau Ecosection including all of Spatsizi Plateau Wilderness Park, Gladys Lake Ecological Reserve, Kinaskan Lake Park and Todagin Mountain Park and most of Tatlatui Park, Mt. Edziza Park and Stikine River Park east of Highway 37. With 69% of the ecosection within protected areas, all four biogeoclimatic subzones found within this ecosection (ESSFwv, BWBSdk1, SWB, AT) are well represented.

Another 8% of the Stikine Country Protected Areas lies within the Stikine Plateau Ecosection. That ecosection includes the northern portion of Mt. Edziza Park and Stikine River Park east of Highway 37 with primarily the BWBSdk1 biogeoclimatic subzone represented.

The Cassiar Ranges ecosection contains 2.4% of the Stikine Country Protected Areas including the Chukachida River Protected Area and portions of the Pitman River Protected Area and Stikine River Park. The protected areas in this ecosection protect mostly valley bottoms within the SWB and BWBSdk1 biogeoclimatic subzones.

Less than 2% of the Stikine Country Protected Areas are found within the other three ecosections. The eastern portion of Mt. Edziza Park lies within the Tahltan Highland ecosection and protects high elevation vegetation in the ESSFwv and AT biogeoclimatic subzones. A small section in the southern part of Mt. Edziza Park lies in the Northern Skeena Mountains ecosection and also protects high elevation ESSFwv and AT biogeoclimatic subzones. All of Spatsizi Headwaters Park and less than 2000 ha of Tatlatui Park lie within the Eastern Skeena Mountains ecosection. These two areas protect primarily alpine areas in the AT Biogeoclimatic zone but also include small areas of ESSFmc that is not represented elsewhere in the Stikine Country Protected Areas. The ESSFmc in Tatlatui Park is in a transition zone and with further investigations could possibly be reclassified to SWB.

1.2.1.4 Rare and Sensitive Plants and Vegetation Ecosystems

Twenty-four blue-listed and three red-listed vascular plant species are known to occur within the Stikine Country Protected Areas (Table 6). Most of the red and blue listed vascular plants occur in subalpine and alpine habitats. An additional 25 plant species of taxonomic or distributional interest have been recorded in the Gladys Lake Ecological Reserve (Table 7) and 11 rare vegetation ecosystems are known to occur within the Stikine Country Protected Areas (Table 8). All of the rare vegetation ecosystems are associated with either steep, dry slopes or rich mineral springs. Many of the dry steppe ecosystems found in the Stikine River Canyon have been subjected to extensive grazing pressure outside of the protected areas.

Only the Gladys Lake Ecological Reserve and parts of Mt. Edziza Park and Zone have experienced even a moderate level of vegetation field investigations within their boundaries. Further vegetation exploration within the Stikine Country Protected Areas will undoubtedly uncover additional rare plant species and ecosystems and their associated localities

Due to the harsh environmental conditions present within the Stikine Country Protected Areas, many plant communities are highly sensitive to physical damage. Rare plants are often associated with extreme conditions such as very dry or very wet sites that are amongst the most sensitive to damage. In addition, lichens, an important food source for caribou are also highly sensitive to physical disturbance and are especially vulnerable to damage during summer when they are dry. Because they grow extremely slowly, lichen recovery following disturbance could take 50-100 years.

Table 5. Ecoregion and biogeoclimatic subzone/variant representation within the Stikine Country Protected Areas.

Biogeoclimatic Subzone/ Variant	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
Southern Boreal Plateau											
SBS			19839	620							
ESSFwv			34339	2149							
BWBSdk1	1800	235	7431		87432	4771		49112			
SWB		2392	39382		104107	1486		341973	12202	48372	
AT		862	86546	664	5155	60		314226	30230	53138	
Total	1800	3490	187537	3433	196694	6317		705311	42432	101510	
Stikine Plateau											
BWBSdk1			54071		43852						
SWB			6216		7742						
AT					588						
Total			60287		52182						
Tahltan Highland											
SBS											
ESSFwv			15009								
BWBSdk1											
AT			829								
Total			15838								
Northern Skeena Mountains											
ESSFwv			943								
AT			2386								
Total			3329								
Eastern Skeena Mountains											
ESSFmc										50	85
AT										1886	320
Total										1936	405
Cassiar Ranges											
BWBSdk1					3136	2150	986				
SWB					1953	7671	17420				
AT					2	173	995	170			
Total					5091	9964	19401	170			

Table 6. Known occurrences of rare plant species within the Stikine Country Protected Areas. (Pojar 1976, 2000, CDC plant lists).

Scientific name	Common name	Provincial list	Todagin Mountain Park	Mt. Edziza Park and Zone	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Habitat	BGC[1] Zone
Douglasia gormanii[2]	Gorman's douglasia	Blue			+	+		Rocky slopes in the alpine zone	AT
Draba cinerea	Gray-leaved draba	Blue				+		Dry meadows and cliffs in the montane to alpine zones	AT BWBS SWB
Draba corymbosa	Baffin's bay draba	Blue		+				Mesic to dry meadows in the alpine zone	AT
Draba fladnizensis	Austrian whitlow-grass	Blue		+	+	+		Mesic to dry meadows, cliffs and talus in the montane to alpine zone	AT BWBS SWB
Draba lactea	Milky draba	Blue		+		+		Mesic to dry meadows and cliffs in the montane to alpine zones	AT BWBS SWB
Draba lonchocarpa var. *thompsonii*	Lance-fruited whitlow-grass	Blue				+		Mesic to dry meadows, cliffs and scree slopes in the alpine zone	AT
Draba stenopetala[3]	Star-flowered draba	Red		+				Mesic to dry meadows and cliffs in the subalpine and alpine zones	AT
Epilobium davuricum	Swamp willowherb	Blue				+		Wet meadows and cliffs in the subalpine and alpine zones	AT SWB
Epilobium leptocarpum	Small-flowered willowherb	Blue		+				Moist meadows and streambanks in the montane to alpine zones	AT ESSF
Erigeron uniflorus var. *eriocephalus*[4]	Northern daisy	Blue				+		Moist to wet meadows in the alpine zone	AT
Eriophorum vaginatum spp. *Spissum*	Sheathed cotton-grass	Blue			+			Bogs, marshes and wet meadows in the montane to subalpine zones	BWBS SBS
Erysimum pallasii[5]	Pallas' wallflower	Blue		+				Dry talus slopes in the alpine zone	AT
Eutrema edwardsii	Edward's wallflower	Blue		+		+		Dry talus slopes in the subalpine and alpine zones	AT SWB
Festuca minutiflora	Little fescue	Blue		+				Dry, stony slopes in the alpine zone	AT
Juncus arcticus var *alaskanus*	Arctic rush	Blue				+		Tidal flats and lake margins in the lowland and montane zones	AT BWBS ESSF
Koenigia islandica	Iceland Koenigia	Blue		+		+		Moist gravelly sites in the subalpine and alpine zones	AT SWB
Lupinus kuschei	Yukon lupine	Blue		+				Mesic, rocky, sandy or gravelly sites in the montane zone	BWBS
Luzula arctica	Arctic wood-rush	Blue		+		+		Moist meadows and snowbed sites in the subalpine and alpine zones	AT SWB
Luzula groenlandica[2]	Greenland wood-rush	Blue				+		Wet depressions and snowbed sites in the alpine zone	AT
Papaver alboroseum	Pale poppy	Blue					+	Mesic to dry sites in the alpine zone	AT
Pedicularis verticillata	Whorled lousewort	Blue	+					Meadows and rocky slopes in the montane and alpine zones	AT
Ranunculus sulphureus	Sulphur buttercup	Blue			+	+		Moist meadows, bogs or gravelly sites in the alpine zone	AT
Salix raupii	Raup's willow	Red				+		Thickets in moist, open forests and on gravel floodplains in the montane zone	BWBS
Saxifraga nelsoniana spp. *Carlottae*	Cordate-leaved saxifrage	Red		+				Moist rocks, ledges and streambanks from the montane to alpine zones	AT SWB
Saxifraga serpyllifolia	Thyme-leaved saxifrage	Blue		+		+		Moist gravelly scree slopes in the alpine zone	AT
Senecio sheldonensis	Mt. Sheldon buttercup	Blue	+			+		Wet to moist sites in the montane to alpine zones	AT SWB

[1] Biogeoclimatic Zones that plants are found in the Stikine Country Protected Areas: AT=Alpine Tundra; BWBS=Boreal White and Black Spruce; ESSF=Engelmann Spruce-Subalpine Fir; SWV=Spruce-Willow-Birch

[2] In B.C., known only from Spatsizi Plateau

[3] In B.C., known only from Mt. Edziza and Tatshenshini areas

[4] In B.C., known only from Cold Fish Lake and Tatshenshini areas

[5] In B.C., known only from Mt. Edziza

Table 7. Plant species of taxonomic or distributional interest found in Gladys Lake Ecological Reserve. (Pojar 1986, 2000).

Arabis lemmonii	*Ledum palustre* ssp. *decumbens*
Arnica lessingii	*Lupinus nootkatensis*
Artemisia michauxiana	*Luzula confusa*
Carex obtusata	*Minuartia dawsonensis*
Carex supina	*Oxytropis campestris* var. *jordalii*
Castilleja parviflora	*Oxytropis huddelsonii*
Cirsium edule	*Poa interior*
Draba alpina	*Poa rupicola*
Dryopteris fragrans	*Polygonum douglasii*
Epilobium luteum	*Ranunculus grayi*
Erigeron purpuratus	*Sedum divergens*
Fritillaria camschatcensis	*Selaginella sibrica*
Juncus biglumis	

Table 8. Known occurrences of rare vegetation ecosystems within the Stikine Country Protected Areas. (Pojar in prep).

Rare Ecosystem	Site type	Todagin Mountain Park	Mount Edziza Park and Zone	Stikine River Park	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park
Boreal White and Black Spruce – boreal steppe on steep south and southwest facing slopes							
Artemesia frigida – Elymus spp.	Boreal steppe	+[1]	Klastline Stikine River slopes Lower Mess Creek	Stikine River			
Juniperus x – Elymus trachycaulus – Artemisia (campestris,frigida)	Warm and dry steep, south facing slopes		Klastline Lower Mess Creek Stikine Canyon	Stikine Canyon			
Elaeagnus commutata – Apocynum androsaemifolium – "Agropyron boreale" – Stipa hymenoides	Eroding slopes in scrub-steppe			Near confluence of Stikine and Tuya Rivers; probably elsewhere in the canyon			
Juniperus horizontalis – Artemisia frigida – Calamagrostis purpurascens	Very dry boreal steppe on erodible, weakly calcareous soils		Klastline Stikine Canyon	Stikine Canyon			
Amelanchier alnifolia – Elymus trachycaulus	Warm dry steep, southwest facing slopes	+		+			
Alpine Tundra							
Kobresia myosuroides – Hierochloe alpina – Rhacomitrium lanuginosum – lichen	Very exposed alpine tundra on windswept ridgecrests	+	+		+	+	
Poa rupicola – Agropyron violaceum	Grassy promontories where sheep and goats graze and rest; lush, well manured	+	+		+	+	+
Mineral springs							
Salix brachycarpa – Muhlenbergia richardsonis	Extensive calcite formations		Mess Lake				
Calamagrostis stricta – Muhlenbergia richardsonis – Eleocharis quinqueflora	Extensive calcite formations		Mess Lake				
Boreal White and Black Spruce and Spruce Willow Birch – Partially stabilized talus slopes							
Dryopteris fragrans – Rhacomitrium lanuginosum – Umbilicaria spp.	Partially stabilized talus slopes		Mt. Edziza Klastline	+	+	+	Likely
Juniperus communis – Arctostaphylos uva-ursi – Dryopteris fragrans	Partially stabilized talus slopes		Mt. Edziza Klastline	+	+	+	Likely

[1] Localities provided when available, otherwise presence of the ecosystem in the park denoted by "+"; Likely = likely occurs but not yet recorded

In the Spruce Willow Birch biogeoclimatic zone dry scrub birch/lichen, dry trembling aspen and plant communities on south and west-facing slopes are sensitive to disturbance. In the Alpine Tundra zone, the mesic Altai fescue, dry lichen and moist sedge-moss plant communities are sensitive. These are common on the alpine plateaus. Plant communities colonizing relatively recent lava flows in Mt. Edziza Park and areas where glaciers have recently receded are living under harsh conditions and are also extremely sensitive.

1.2.2 Fish

Watersheds in the Stikine Country Protected Areas drain into both Pacific and Arctic Oceans. In Tatlatui Park all water is channeled through the Firesteel River to the Finlay and Peace River systems and into the Arctic Ocean. Waters in all the other parks empty into the Pacific Ocean via the Stikine and Iskut rivers.

All existing information on fish in the Stikine Country Protected Areas was collated and summarized in 1998 (DeGisi 1998). Most of the available information is limited to recreationally significant species, therefore little is known about other species. Aquatic inventories for a number of lakes were conducted in Spatsizi and Tatlatui Parks in 1976, in Kinaskan Lake Park in 1981 and in Mt. Edziza Park in 1982. Information for other waters in the Stikine Country Protected Areas is limited.

1.2.2.1 Species and Distribution

Fish species present in the Stikine Country Protected Areas are representative of northern interior and Pacific systems. All protected areas except Todagin Mountain Park encompass portions of, or complete watersheds and lake systems. Todagin Creek is the southern boundary for the park and does not lie within the park.

The Grand Canyon of the Stikine River acts as a velocity barrier that prevents anadromous species from moving upstream. The distribution of chinook, coho and sockeye salmon, steelhead and cutthroat trout is restricted to the lower reaches of the Stikine River and its tributaries within Stikine River and Mt. Edziza parks. Chinook salmon have been reported at the mouth of the Klastline River but they do not appear to reach the Tanzilla River. Most of the anadromous species found in the Stikine River are in transit to the Tahltan and lower Tuya Rivers. The Tahltan and Tuya rivers lie outside of the Stikine Country Protected Areas. Within Stikine River and Mt. Edziza Parks, very limited spawning may occur in the lower reaches of Stikine River tributaries and possibly in the Stikine mainstem itself. Chinook salmon and steelhead have been recorded in Mess Creek and likely occur in the lower reaches of Line Creek in Mt. Edziza Park. The Stikine River and its tributaries below the canyon also support resident rainbow trout, cutthroat, bull trout, Dolly Varden, mountain whitefish and Arctic grayling. In addition, lake chub have been recorded in the Stikine River near Telegraph Creek; it is unknown whether the species occurs upstream.

The distribution of freshwater fish species in the Stikine Country Protected Areas upstream of the Grand Canyon of the Stikine River and in Tatlatui Park is presented in Table 9. For the purpose of this discussion Pitman River Protected Area and Chukachida River Protected Area are included with Stikine River Park. Rainbow trout have been recorded in all waters in Table 9 except Happy Lake and Kliweguh Creek in Spatsizi Park. Rainbow trout are the only fish species found in all waters in Tatlatui Park and waters in the upper Iskut River system including Natadesleen Lake and the Iskut River in Kinaskan Lake Park, and the Kakiddi Creek system (Kakiddi Creek, Kakiddi Lake, Mowchilla Lake, Mowdade Lake, Nuttlude Lake) in Mt. Edziza Park (Table 9). These are the only two areas in British Columbia where a monoculture of rainbow trout occurs over a large area (>1000 km^2). In the upper Iskut River system a barrier to upstream migration for other fish species exists at a canyon in the vicinity of Forest Kerr Creek. In the Firesteel River system in Tatlatui Park velocity barriers at the lower end of the river prevent upstream movement of other fish. Rainbow trout are also the only species present in Buckinghorse and Klahowya lakes in Spatsizi Park.

Table 9. Distribution of freshwater fish species within the Stikine Country Protected Areas.

	Arctic Grayling	Burbot	Dolly Varden/ Bull trout	Lake trout	Longnose sucker	Prickly sculpin	Rainbow trout	Rocky Mountain Whitefish
Kinaskan Lake								
Natadesleen Lake							+[1]	
Iskut River							+	
Mt. Edziza Park								
Mowdade Lake							+	
Mowchilla Lake							+	
Kakiddi Lake							+	
Nuttlude Lake							+	
Stikine River Park (upstream of the Grand Canyon)								
Stikine River	+	+	+	+	+	+	+	+
Spatsizi Park								
Upper Stikine River	+	+	+	+	+	+	+	+
Tuaton Lake			+		+	+	+	+
Laslui Lake	+		+		+		+	+
Chukachida River	L		+				L	
Chapea Lake							+	
Ella Creek							+	
Ella Lake			+		L		+	L
Hotlesklwa Creek			L				+	+
Hotlesklwa Lake			+		+		+	+
Happy Lake								+
Spatsizi River	+	+	+		+		+	+
Kliweguh Creek			+					
Mink Creek	+		+	+			+	+
Cold Fish Lake	+	+	+	+		+	+	+
Buckinghorse Lake							+	
Klahowya Lake							+	
Tatlatui Park								
Tatlatui Lake							+	
Firesteel River							+	
Kitchener Lake							+	
Rognaas Creek							+	
Lower Stalk Lake							+	
Upper Stalk Lake							+	
Stalk Creek							+	
Trygve Lake							+	

[1] + = present; L = likely present

Bull trout are known to occur in the Stikine River drainage although most char have been identified as Dolly Varden in Stikine River and Spatsizi parks. Char that occur in those parks may be bull trout or both species. Bull trout are blue-listed and are discussed further in section 1.2.2.2. Other species found in the Stikine River system in Stikine River and Spatsizi Parks include arctic grayling, burbot, lake trout, longnose sucker, prickly sculpin and Rocky Mountain whitefish. Although lake trout have been recorded in the Stikine River they are likely only transients in the river and are not a self-sustaining population. Buckley Lake is a naturally fishless lake although it was illegally stocked with lake trout and rainbow trout probably during the 1980s. Some fish may still exist in the lake today from this illegal stocking. Buckley Lake may have also been stocked with rainbow trout in the 1930s but a self-sustaining population was not established. There are no records of any other authorized or unauthorized fish stocking of lakes in the Stikine Country Protected Areas.

Due to lower average temperatures, a shorter "growing" season and typically nutrient-poor conditions, waters in northwestern BC are generally less productive than waters in other areas in the province. Individual fish may still reach large body size through low natural mortality, delayed maturity and high longevity, especially if population numbers are kept low because of limited reproductive habitat. However, such populations are vulnerable to overexploitation.

Lakes in Mt. Edziza Park are relatively productive for northern British Columbia, probably due to the surrounding volcanic soils (Table 10). Rainbow trout in those lakes are small to moderate in size and exist at high densities likely due to high productivity and abundant accessible spawning habitat.

Table 10. Reported relative fish size, fish density and lake characteristics of selected waters in the Stikine Country Protected Areas. (DeGisi 1998).

	Relative Fish Density	Relative Fish Size	Relative Lake depth	Relative lake productivity	Comments
Kinaskan Lake Park					
Natadesleen Lake	Low	Moderate	Shallow	High	Limited spawning and rearing habitat
Mt. Edziza Park					
Mowdade Lake	High	Small	Shallow	Moderate	
Mowchilla Lake	High	Small	Shallow	Moderate	
Kakiddi Lake	High	Small	Shallow	Moderate	
Nuttlude Lake	High	Small	Shallow	Moderate	
Spatsizi Park					
Tuaton Lake			Moderate	Low	Cold
Chapea Lake	High	Small			
Hotlesklwa Creek					Moderate amount of good fish habitat
Hotlesklwa Lake			Moderate	Low-moderate	
Kliweguh Creek					Likely used by bull trout for spawning at locations where they are vulnerable to harvest
Cold Fish Lake			Deep	Low	Cold
Buckinghorse Lake	Low	Large	Moderate	Moderate	Spawning habitat does not appear limiting
Klahowya Lake	Low	Large	Shallow	Low	Low fish density and large size of fish is possibly due to limited spawning or rearing habitat
Tatlatui Park					
Tatlatui Lake	High	Moderate	Deep	Low	
Firesteel River	Very high	Small - Moderate			Fish density atypically high
Kitchener Lake		Large	Deep	Low	
Lower Stalk Lake	Low	Large	Shallow	Low	

Lakes in Tatlatui Park are deep and unproductive and with the exception of the 'middle' Firesteel River, most streams and rivers are turbulent with many rapids and chutes. Because of the high gradient and barriers to fish movement, there appear to be several discrete populations of rainbow trout: Tatlatui Lake; the upper Firesteel River (possibly continuous with Tatlatui Lake); the low gradient 'middle' Firesteel River; the turbulent lower Firesteel River; Kitchener Lake, lower Stalk Creek and upper Rognaas Creek; and Stalk Lakes and upper Stalk Creek. In general fish tend to be small and rarely exceed two kg in size.

1.2.2.2 Rare and Endangered Fish

Bull trout is a blue-listed species that occurs in waters within Spatsizi and Stikine River parks. Both Dolly Varden and bull trout are reported in the area however it is still unclear if the two species coexist due to the difficulty in distinguishing between the two species. Large resident char (up to eight kg) are more likely to be bull trout as non-anadromous Dolly Varden do not usually attain such size. Spatsizi and Stikine River parks along with the Chukachida River and Pitman River Protected Areas constitute the only fully protected area in British Columbia enclosing contiguous streams, large rivers and lakes believed to support this species in the full diversity of its life histories (except anadromy, i.e.: sea-going stocks).

Bull trout are either lake residents or river residents and make long migrations (up to 300 km) to spawn in smaller clear streams in late summer and fall. Large char found in the larger rivers (Stikine, Spatsizi, Pitman, Chukachida) may either be residents of those rivers or are migrating to spawning areas. During migration and reproduction the fish are aggressive and accessible, and are therefore highly vulnerable to angling. Because these fish are slow growing, late maturing and relatively low in abundance, excessive angling can have significant impacts on the populations. Various regulations to protect bull trout such as "slot" size limits and non-retention in streams have been introduced in other areas in British Columbia.

1.2.3 Wildlife

One of the most significant biological features of the Stikine Country Protected Areas is the variety and abundance of wildlife, especially large mammals. Caribou, Stone's sheep, mountain goats, moose, grizzly bears, wolves and black bears all inhabit the area. Although the park system is large enough to accommodate most habitat and life cycle requirements for most of those species, animals frequently move beyond protected area boundaries and some require large areas to maintain minimum viable populations. Numerous smaller wildlife species are also present. For those species the Stikine Country Protected Areas system provides all necessary life cycle requirements and is large enough to maintain viable populations, therefore, detailed discussions of wildlife species are presented for only large mammal species.

Information discussed in this section is based on inventories and research conducted in the Stikine Country Protected Areas. Habitat information for all parks except Tatlatui Park is derived from wildlife habitat capability interpretations (at 1:250 000 scale) developed for the Cassiar-Iskut-Stikine LRMP. Habitat in that area was classified into six categories from 1 to 6 with Class 1 being the highest value habitat. Habitat information for Tatlatui Park is derived from wildlife habitat capability interpretations developed for the Mackenzie LRMP and includes three habitat classes (high, medium and low). Wildlife habitat capability is broken down by wildlife species for each protected area (including additions) in Appendix 4. Spatsizi Headwaters Park is not included in the wildlife discussions due to its very small size, relatively isolated location and subsequent limited capability for supporting wildlife habitat and populations.

1.2.3.1 Inventory and Research

The Stikine Country Protected Areas have been the focus of a number of wildlife inventories and research studies since the 1960s. In the 1960s, Val Geist studied Stone's sheep behaviour in the Gladys Lake area. In the late 1970s and early 1980s the Stikine River upstream from Telegraph Creek was the focus of a number of wildlife surveys for the proposed Stikine-Iskut Hydroelectric Project. The Spatsizi Association for Biological Research (SABR) conducted research in the Spatsizi area on caribou habitat use, behaviour and population dynamics from 1980 to 1987 and on moose, wolf and grizzly bear habitat use, behaviour and population dynamics from 1990 to 1993. In addition to SABR, research was also conducted on early caribou calf mortality and caribou rutting behaviour in the Spatsizi area. In the late 1970s and in the 1980s numerous caribou and mountain sheep inventories were conducted in the Spatsizi area and in Mt. Edziza Park. However, in the 1990s few wildlife inventories were undertaken in the Stikine Country Protected Areas.

1.2.3.2 Caribou

The Stikine Country Protected Areas protect a significant part of the region's caribou habitat (Table 11, Figure 5). During winter, caribou in these areas feed primarily by digging through the snow to obtain terrestrial lichens either on lower elevation forested plateaus or at high elevations on windswept alpine slopes. Winter feeding strategy varies between years and between winter months depending on snow conditions. During some years, such as in 1994, most of the caribou may be found on windswept alpine slopes whereas during other years animals may avoid alpine habitat altogether. Caribou also feed on arboreal lichens during winter although the extent of arboreal lichen feeding varies with snow conditions. In spring female caribou may travel extensive distances to calving areas. Cows calve in early June in all habitat types but many caribou calve at high elevations forgoing nutritious forage at low elevations in order to avoid predation on their calves. Usually only one calf is produced. During summer, caribou use a variety of habitats and feed on emerging vegetation. In the fall, a large proportion of the population move into alpine and subalpine habitat to rut although rutting also occurs below treeline.

Two main populations of caribou live within the Stikine Country Protected Areas area: the Spatsizi population and the Mt. Edziza population. The Spatsizi caribou population range is centred in Spatsizi Park but includes Gladys Lake Ecological Reserve, Stikine River Park east of Highway 37, Pitman River Protected Area, Chukachida River Protected Area and Tatlatui Park. Caribou are found throughout the

Table 11. Population status and habitat composition for caribou in the Stikine Country Protected Areas.

	Kinaskan Lake Park	**Todagin Mountain Park**	**Mount Edziza Park**	**Mount Edziza Zone**	**Stikine River Park**	**Pitman River Protected Area**	**Chukachida River Protected Area**	**Spatsizi Plateau Wilderness Park**	**Gladys Lake Ecological Reserve**	**Tatlatui Park**
Population status										
Survey year	Mostly Absent	Mostly Absent	October 1983			March 1994				
Number of caribou observed			66			2145				
Population estimate						2681				
Calf recruitment % calves			10.6			15.8				
Habitat class composition (hectares)										
1 Very High	0	257	14839	0	95624	1999	195	285892	11015	44534
2 High	4	360	107937	1512	87807	3539	6022	249138	13169	
3 Moderate-High	1796	2078	73443	1267	13186	10702	10582	32417	2686	50349
4 Moderate	0	74	31390	655	18163	0	560	84846	11651	
5 Moderate-Low	0	720	21257	0	39189	0	2041	52000	2602	8195
6 Low	0	0	18124	0	0	0	0	1529	1308	
Total Park Area	1800	3489	266990	3434	253969	16240	19400	705822	42431	103078
% Park in habitat classes 1-3	99.8	77.2	73.5	80.9	77.4	100.0	86.6	80.4	63.3	N/A

area in summer. Major wintering areas include pine forests along the Stikine River between the McBride and Pitman Rivers, and the lower Spatsizi River. As stated above, during some winters caribou extensively use windswept alpine slopes mostly on the Spatsizi Plateau, between the Ross and Spatsizi Rivers, and in the Eaglenest Range and Gladys Lake Ecological Reserve north of Mt. Will. Important rutting areas include the Spatsizi Plateau, the Tomias Mountain Plateau and Edozadelly Mountain. Caribou are found in Tatlatui Park primarily during spring, summer and fall and are mostly absent from the park in winter due to the deep snow pack. The most recent population survey was conducted in March 1994 when 2145 caribou were counted in alpine habitat. A correction factor of 20% was applied to the number of caribou observed to result in an estimate of 2681 caribou. Calf recruitment (15.8% calves) appeared to be adequate to compensate for adult mortality indicating that the population appears to be stable.

The Mt. Edziza caribou population summers throughout the park and some rutting aggregations occur on the plateau west of Mt. Edziza Peak. During winter caribou sign is found below treeline in the Buckley Lake area, however little information is available on winter distribution of caribou. During some winters caribou may be found on the plateau. The last caribou survey was conducted in October 1983 when 66 caribou were counted in rutting groups on the west side of the park. Of those 66, seven (10.6%) were calves. Calf recruitment appeared to be low, however it may have been a function of the small sample size. Attempts to conduct caribou population surveys since 1983 have been unsuccessful due to the lack of caribou in alpine habitat during the surveys. Anecdotal observations in 1996 suggest that the population may have increased since 1983. However, due to the lack of current inventory information, the status of the Mt. Edziza caribou population is unknown.

1.2.3.3 Stone's Sheep

Stone's sheep are found in all of the Stikine Country Protected Areas except Kinaskan Lake Park and the lower elevation portions of Pitman River and Chukachida River Protected Areas (Table 12, Figure 6). Although Chukachida River Protected Area contains considerable moderate-high value sheep habitat, sheep density there is low. Higher densities of Stone's sheep are found in Spatsizi Park, Gladys Lake Ecological Reserve, Stikine River Park, Mt. Edziza Park and Zone and Todagin Mountain Park. Stone's sheep numbers in Tatlatui Park is limited by habitat availability and winter snow accumulation.

Stone's sheep are generally associated with steep slopes, grassy knolls and adjacent cliffs for escape terrain. During winter, Stone's sheep primarily use south or west facing alpine and subalpine slopes where snow accumulations are low and where they can forage on grasses, sedges and other ground vegetation. For the snow free part of the year, sheep may use a wider variety of habitats that are in close proximity to escape terrain. For most of the year rams and ewes generally occupy separate ranges except during the rut in November/December. Lambs (usually 1) are born in late May and early June.

In Spatsizi Park, sheep are found primarily in the northern part of the Eaglenest Mountains, in the Gladys Lake Ecological Reserve and on the Spatsizi Plateau along Marion Creek and the south facing slopes near Hyland Post. A sheep population survey of that area in March 1993 and 1994 yielded a population estimate of 599 sheep. Overall, lamb recruitment appeared to be low to moderate, likely compensating for adult mortality. The estimated number of sheep in the 1993 and 1994 surveys was similar to the 1988 survey suggesting that the population is stable, however, distribution of sheep was slightly different between the two surveys. The population at Marion Creek and Hyland Post is considered to be somewhat isolated from the larger population in the Eaglenest Range. The number of sheep counted during surveys in the Marion Creek/Hyland Post area decreased from 125 sheep in 1988 to 63 sheep in 1999 indicating a decline. Some small bands of sheep are found south of the Spatsizi River east of the Dawson River and in the Duti River area at the southeast end of the park, however status of those bands are difficult to assess due to low numbers observed. Scattered small bands of sheep are also found in Tatlatui Park. In 1985, 19 sheep were observed in Tatlatui Park during mountain goat surveys in July.

Table 12. Population status and habitat composition for Stone's Sheep in the Stikine Country Protected Areas.

	Kinaskan Lake Park	**Todagin Mountain Park**	**Mount Edziza Park**	**Mount Edziza Zone**	**Stikine River Park**	**Pitman River Protected Area**	**Chukachida River Protected Area**	**Spatsizi Plateau Wilderness Park**	**Gladys Lake Ecological Reserve**	**Tatlatui Park**
Population status										
Survey year		December 1997	March 1996		March 1994			March 1994		July 1985
Number of sheep observed	Absent	184[1]	136		74	No data	No data	479		19
Population estimate			170		92			599		
Lamb recruitment % lambs lambs/100 ewes		26.1% 49.0 (48/98)	16.2% 27.2 (22/81)		6.8% 14.3 (5/74)			16.5% 27.4 (79/288)		26.3% 41.7 (5/12)
Habitat class composition (hectares)										
1 Very High	0	257	14823	0	4186	0	0	77922	1521	
2 High	0	0	18104	0	2574	0	1088	120797	8550	
3 Moderate-High	0	2809	89000	2421	39936	793	12705	297842	26881	
4 Moderate	0	80	65015	0	124941	7643	3775	98988	2064	
5 Moderate-Low	1642	166	71034	655	79949	7789	700	102319	3347	
6 Low	158	178	9012	358	2383	14	1133	7952	70	
Total Park Area	1800	3490	266988	3434	253969	16239	19401	705820	42433	
% Park in habitat classes 1-3	0.0	87.9	45.7	70.5	16.9	4.5	71.1	56.2	87.1	

[1] Area surveyed includes all of the Todagin "No Shooting" Area which is larger than the park

Twelve sheep were observed in Tatlatui Park during another goat survey in 1989. Lamb recruitment appeared moderate although because of the small number of sheep counted and because sheep were not the targeted survey species, the status of the sheep population in Tatlatui Park is difficult to determine.

In Stikine River Park, sheep are found primarily on the north side of the river in the mountains between Beggerlay Creek and the Kehlechoa River. A survey of the area in March 1994 yielded a population estimate of 92 sheep. Sheep have not yet been surveyed in the northern addition to the old Stikine River Recreation Area

Stone's sheep are found throughout Mt. Edziza Park with the greatest concentrations along the south and west facing cliffs on the west side of the plateau. In March 1996, 136 sheep were counted in the park and in the Mt. Edziza Zone yielding a population estimate of 170 sheep. Low to moderate lamb recruitment suggests that the population may be stable.

Todagin Mountain Park protects important south facing sheep winter range and lambing areas. Although sheep use the park throughout the year, the park is only a portion of the Todagin Mountain sheep range (defined by the Todagin Mountain "No Shooting" area). In December 1997, 184 sheep were counted on Todagin Mountain including the park. Moderate lamb recruitment suggests at least a stable population.

Lamb recruitment appeared adequate for Todagin Mountain, Mt. Edziza, Spatsizi and Tatlatui Parks although lamb recruitment in Tatlatui Park was based on a small sample size.

1.2.3.4 Mountain Goats

Mountain goats are found throughout the Stikine Country Protected Areas except for Kinaskan Lake Park and the low elevation portions of Pitman River and Chukachida River Protected Areas. Mountain goats are found throughout Spatsizi Park, Gladys Lake Ecological Reserve, Tatlatui Park, Mt. Edziza Park and Todagin Mountain Park in association with precipitous slopes and cliffs. In those parks, moderate to high quality mountain goat habitat makes up over 45% of the park landbase (Table 13, Figure 7). In Stikine River Park goat habitat is limited and goats are found mainly along the Stikine River Canyon.

Mountain goats are highly agile climbers and forage in habitats closely associated with precipitous slopes and cliffs that they use for escape terrain. They inhabit terrain similar to but often steeper and more precipitous than Stone's sheep. Mountain goats are more restricted than sheep in their movements away from escape terrain but forage on a wider variety of vegetation including grasses, forbs, shrubs and subalpine fir. During winter, goats must often forage on vegetation immediately adjacent to escape terrain, which may be limited to subalpine fir. Like sheep, goats prefer south facing slopes with low snow accumulations in winter but are also found on all aspects and in deep snow areas. Goats use a wider variety of habitats in the summer when movements are less restricted by snow but still rely on cliffs for escape terrain. Kids are born in late May and nannies may produce one or two and occasionally three kids.

Although few recent surveys have been conducted for mountain goats in the Stikine Country Protected Areas, population numbers and kid recruitment from those surveys appeared adequate for maintenance of at least stable populations in most of the parks. However, because surveys in Gladys Lake Ecological Reserve and Spatsizi and Tatlatui parks were conducted over 10 years ago, current population status cannot be inferred. In July 1984 and 1985, 630 goats were counted in the Spatsizi and Gladys Lake area and 320 goats were counted in Tatlatui Park in July 1989. For Mt. Edziza Park and Zone, 168 goats were counted in March 1996 and the population was estimated at 210 goats.

The most recent adequate survey of mountain goats in the Stikine River Canyon was conducted in September 1979 and yielded an estimate of 316 goats. A few surveys have been attempted in the area since then, (as recently as March 1996) however low numbers observed during those flights were believed to be a function of poor sightability conditions. Consequently, the current status of the Stikine Canyon mountain goat population is unknown.

Table 13. Population status and habitat composition for mountain goats in the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park
Population status										
Survey year	Absent	July 1993	March 1996		Sept 1979	Mostly absent	Mostly Absent	July 1984 July 1985	July 1984	July 1989
Number of goats observed		28[1]	168		255			585	45	320
Population estimate		32[1]	210		316					
Kid recruitment % kids		14.3% (4/28)	15.5% (26/168)		18.4% (47/255)			23.9% (140/585)	31.1% (14/45)	27.5% (88/320)
Habitat class composition (hectares)										
1 Very High	0	597	16737	275	12926	0	0	118210	6148	
2 High	0	257	23039	0	10395	36	1088	59265	2350	
3 Moderate-High	0	1492	82330	2146	6544	32	6001	184364	11307	
4 Moderate	0	80	64608	0	90805	9758	10478	129082	2064	
5 Moderate-Low	1642	887	43039	655	115825	6414	945	208615	20493	
6 Low	158	178	37239	358	17474	0	888	6283	70	
Total Park Area	1800	3491	266992	3434	253969	16240	19400	705819	42432	
% Park in habitat classes 1-3	0.0	67.2	45.7	70.5	11.8	0.4	36.5	51.3	46.7	

[1] Area surveyed includes all of the Todagin "No Shooting" Area which is larger than the park

For Todagin Mountain Park, 28 mountain goats were observed in the whole Todagin Mountain area (which includes the park) during a survey conducted in July 1993. Since then, up to 59 goats have been counted during Stone's sheep surveys conducted in the Todagin Mountain area. However, during all of the surveys less than 10 goats were observed within the park area. Todagin Mountain Park provides some goat habitat within a larger area but does not support an independent goat population. Kid recruitment levels reported for that area may be more a function of a small sample size rather than an actual low recruitment level. Current status of the Todagin Mountain goat population is unknown.

Kid recruitment levels varied with survey season for mountain goat population in the Stikine Country Protected Areas. Lower recruitment in March and September surveys partly reflected incorporation of late summer and winter mortality not accounted for in July surveys. Overall, kid recruitment was likely adequate to compensate for adult mortality.

1.2.3.5 Moose

Moose are found throughout all of the Stikine Country Protected Areas. During winter, moose are typically found at low elevations in valley bottoms feeding primarily on shrubs, grasses and sedges in forested and wetland habitats. In spring, female moose may move considerable distances to calving areas mostly below treeline although many cows may calve in subalpine habitats. Calving occurs in late May/early June and females may give birth to one or two calves. During summer, moose are found in all habitat types but mostly below treeline and in the fall they favour upland scrub and subalpine habitat.

Moderate to high quality moose habitat (habitat classes 1-3) is prominent in most of the Stikine Country Protected Areas (Table 14, Figure 8). Only the Gladys Lake Ecological Reserve contains less than 50% good quality habitat because it is limited to mainly summer moose habitat. Significant wetland habitat occurs along the Chukachida and Pitman Rivers. Old burns near Hyland Post and along the Stikine River provide high quality moose winter habitat. Although little information is available for Tatlatui Park, moose primarily use the park for summer range due to deep snow accumulation in the winter.

Only two areas in the Stikine Country Protected Areas area have been surveyed for moose using the stratified random block moose survey method. Surveys were conducted in the Level Mountain area in February 1988 and 1990 and in Spatsizi Park and Stikine River Park east of Highway 37 in February 1990. Although the Level Mountain survey was conducted north of the Stikine River, the 1990 density estimate of 470 moose/1000 km^2 is a good indicator of moose density for the northern portion of Mt. Edziza Park and Stikine River Park west of Highway 37. The Spatsizi Park survey encompassed 3428km^2 and included wintering areas in Gladys Lake Ecological Reserve, Pitman River, Chukachida River and Stikine River Park east of Highway 37. The population for the area was estimated at 1912 ± 392 moose with a density of 558 moose/1000 km^2, slightly higher than the density estimate for the Level Mountain area. Calf recruitment levels in both surveys (Spatsizi: 27 calves/100 cows; Level Mountain: 33 calves/100 cows) suggest that calf recruitment is adequate to compensate for adult mortality. Results from the radio-collared moose study conducted by the Spatsizi Association for Biological Research for 1990 and 1991 also suggested that calf recruitment was adequate to compensate for adult mortality. Moderate calf recruitment estimates from those two sources suggest that the moose population is at least stable. However, those estimates are based on information collected 10 years ago and may not reflect current conditions. The bull:cow ratios (Spatsizi: 69 bulls/100 cows; Level Mountain: 68 bulls/ 100 cows) indicate a high proportion of bulls in the population.

A moose transect sampling survey was conducted along the Stikine River from the Tanzilla River to Cullivan Creek in March 1981. Although the survey results are not directly comparable to the stratified random block surveys discussed above, the observed moose density for the area was 250 moose/1000 km^2. Estimated correction factors applied to the survey resulted in an estimated moose density of 390 moose/1000 km^2. The highest concentration of moose was found at the west end of the survey area. In addition, numerous incidental observations of moose have been recorded during other survey flights.

1.2.3.6 Grizzly Bears

Grizzly bears and grizzly bear habitat is found throughout all of the Stikine Country Protected Areas (Table 15, Figure 9). The highest quality habitat occurs along valley bottoms on the Stikine, Spatsizi,

Table 14. Population status and habitat composition for moose in the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park
Population status										
Survey year	No data	No data	No data			February 1990				No data
Population estimate						1912[1]				
Calf recruitment (calves/100 cows)						33				
Habitat composition (hectares)										
1 Very High	0	49	4398	302	32831	54	1272	39699	486	0
2 High	1800	2	59507	1013	110590	6636	1367	194342	824	
3 Moderate-High	0	2742	78171	1237	102582	9514	15673	167789	5965	6054
4 Moderate	0	8	16292	0	1226	0	0	70687	14529	
5 Moderate-Low	0	3	23114	0	6170	36	1088	166483	7669	97024
6 Low	0	685	85508	882	570	0	0	66822	12960	
Total Park Area	1800	3489	266990	3434	253969	16240	19400	705822	42433	103078
% Park in habitat classes 1-3	100.0	80.1	53.2	74.3	96.9	99.8	94.4	56.9	17.1	N/A

[1] The population estimate for Spatsizi Park includes the Gladys Lake Ecological Reserve, Chukachida River Protected Area, Pitman River Protected Area and Stikine River Park east of Highway 37

Table 15. Population status and habitat composition for grizzly bears in the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park
Population status										
Population estimate (year)	-	-	28 (1999)		-	-	-	113 (1999)		25 (1999)
Habitat class composition (hectares)										
1 Very High	0	0	0	0	1	0	0	169	0	0
2 High	0	853	49827	302	38269	54	9780	71432	2006	
3 Moderate-High	1642	2544	91029	2167	197038	15802	4472	476534	26397	103078
4 Moderate	0	74	71602	607	10156	383	0	100249	12653	
5 Moderate-Low	0	0	35496	0	8505	0	5148	54146	0	0
6 Low	158	20	19037	358	0	0	0	3288	1377	
Total Park Area	1800	3491	266991	3434	253968	16239	19400	705818	42433	103078
% Park in habitat classes 1-3	91.2	97.3	56.5	71.9	92.7	97.6	73.5	77.7	66.9	N/A

Chukachida, Pitman and Klappan Rivers. Little information is available on grizzly bears in the Stikine Country Protected Areas. Research by SABR indicates that grizzly bears enter their dens sometime in November and emerge before mid May. Two of three known denning sites were at treeline and the third was on an aspen slope on the Stikine River. The male grizzly bears exhibited long distance movements moving up to 50 km between monthly locations during spring and early summer, whereas the female grizzly remained in the same valley that she was captured in.

In general, grizzly bear females reach maturity at 7-8 years of age and males reach maturity at 5-6 years of age. On average females breed every three years and produce 1-3 cubs (4 rarely) who stay with their mother for their first two years. In spring, bears feed on emerging vegetation especially on avalanche chutes. During summer, bears continue to feed on emerging and growing vegetation and then on berries later in the summer and fall. Throughout the year bears may supplement their diet by feeding on carrion, hunting marmots and ground squirrels in the alpine and hunting larger wildlife. In some areas, grizzly bears are significant predators on newborn ungulates. Grizzly bears with access to salmon spawning streams feed on salmon in late summer and fall. In the Stikine Country Protected Areas area, the Stikine River Canyon prevents the movement of salmon upstream so only grizzly bears in the Mt. Edziza area potentially have access to salmon streams.

Although no direct inventories of grizzly bears exist for the Stikine Country Protected Areas, the Wildlife Branch developed a method of estimating grizzly bear numbers based on habitat capability and human developments and disturbance. Grizzly bear numbers are estimated based on habitat capability then reduced based on degree of habitat alteration, disturbance, and human caused mortalities. Park specific estimates were derived in 1999 for Spatsizi Park, Gladys Lake Ecological Reserve and the Stikine River Recreation Area east of Highway 37 combined, for Mount Edziza Park and Zone combined and for Tatlatui Park. Other existing protected areas (Kinaskan Lake Park, Stikine River Recreation Area west of Highway 37) were too small for individual population estimates and were included in the population estimates for the Wildlife Management Unit in which they occurred. Actual population status of grizzly bear populations in the Stikine Country Protected Areas is unknown.

1.2.3.7 Wolves

Wolves are found throughout all the Stikine Country Protected Areas and are an important predator in the wildlife systems, feeding on moose, caribou, Stone's sheep, mountain goats and other smaller mammals. Wolf numbers are naturally regulated by prey abundance and social behaviour (packs, territories). Wolves patrol and defend territories thereby limiting the number of wolves in an area. Also, usually only the pack's dominant male and female breed, thus limiting potential reproduction within the pack. Because of the diversity of ungulates and small mammals in the Stikine Country Protected Areas area, population fluctuations of individual prey species may have little impact on wolf numbers as wolves switch to other prey sources when one prey source declines.

Research by the Spatsizi Association for Biological Research on radio-collared wolves in the Spatsizi Park area indicated that one wolf pack territory was centered in the Spatsizi Plateau area and another in the Eaglenest Range. Although moose were abundant in valley bottoms, it appeared that those two wolf packs primarily hunted caribou and Stone's sheep. Two other collared wolves (that appeared to be singles or in small packs) were found at lower elevations in forested habitats. Because the wolves died soon after collaring, little information on territory and pack size was collected for those animals.

The role of wolves in the Stikine Country Protected Areas predator/prey ecosystem is further discussed in section 1.2.4.2.

1.2.3.8 Other Wildlife

Records of wildlife species other than those discussed above are limited and information is incomplete. No specific information is available on these other species in Kinaskan Lake or Todagin Mountain Parks; Chukachida River and Pitman River Protected Areas are included with Stikine River Park. Table 16 lists wildlife species expected to occur in the Stikine Country Protected Areas and their corresponding recorded observations. Lack of presence of a recorded observation does not necessarily indicate a lack of presence of that species in the park. Sources of the recorded observations are listed in Appendix 5.

Table 16. Expected and recorded occurrences of wildlife species in the Stikine Country Protected Areas. (See Appendix 5 for source documents).

Expected occurrence	Mt. Edziza Park and Zone	Stikine River Park	Spatsizi Park and Gladys Ecological Reserve	Tatlatui Park
Mule deer	+	+	+	
Black bear		+	+	+
Wolverine	+	+	+	+
Coyote		+	+	
Lynx	+	+		+
Red fox	+	+	+	
Fisher		+		
River otter		+		
Mink		+		
Marten		+		+
Short-tailed weasel		+		+
Least weasel		+		
Snowshoe hare	+	+	+	
Porcupine		+	+	
Beaver	+	+	+	+
Hoary marmot	+		+	+
Arctic ground squirrel	+		+	+
Muskrat	+	+	+	+
Bushy-tailed wood rat			+	
Red squirrel	+	+	+	+
Least chipmunk	+	+	+	+
Meadow vole	+	+	+	+
Long-tailed vole			+	
Mountain heather-vole			+	
Boreal red-backed vole			+	
Tundra red-backed vole	+	+	+	+
Siberian lemming			+	+
Northern bog-lemming			+	
Western Jumping mouse			+	+
Deer mouse	+	+	+	+
Navigator shrew			+	
Cinereus shrew			+	
Wandering shrew			+	
Little brown bat			+	
Western spotted frog			S	+
Northwestern toad			+	
Northern wood frog			+	
Long-toed salamander			S	

[1] + = recorded occurrence; S=suspected occurrence

Mule deer are near their northern range limit and are found primarily in small bands along the Klastline River, along the Spatsizi River near Hyland Post and scattered on south facing slopes along the Stikine River mostly west of Highway 37. The distribution of mule deer in the area is limited primarily by winter snow accumulation.

All medium to large predators (black bear, wolverine, coyote, lynx, red fox, fisher, river otter, mink, marten) and smaller mustelids are expected to occur in all of the Stikine Country Protected Areas although their occurrence has not been recorded for all areas. In addition, one sighting of a cougar in the Spatsizi Park area prior to 1959 was noted. Cougars are likely only rare visitors to the area.

Figure 10 shows the distribution of marten habitat within the Stikine Country Protected Areas. Forested habitat along lower elevation river corridors supports the highest potential for marten habitat.

Most of the other species listed in Table 16 were observed during an inventory of wildlife in Spatsizi and Tatlatui Parks in 1976 and an inventory of wildlife in the Gladys Lake Ecological Reserve in 1975. Other than those inventories, other occurrence records are based on incidental observations.

Although not listed in Table 16, of particular interest is the observation of pikas and melanistic chipmunks on the south slope of Melanistic Peak and the west end of Tatlatui Lake in Tatlatui Park by Bob Henderson. A pika call was also heard in an old rockslide above Trygve Lake during the 1976 inventory. Although pikas are found in the southern half of British Columbia and in the Yukon, they are not known to occur in the northern part of the province.

In the Stikine Country Protected Areas combined, confirmed sightings of 170 species and unconfirmed sightings of two species of birds have been recorded (Appendix 5).

1.2.3.9 Rare and Sensitive Species

Three blue-listed mammal species (grizzly bear, wolverine, fisher) occur within the Stikine Country Protected Areas. All three species require large relatively undisturbed home ranges. For fisher and wolverine the combined size of the contiguous Stikine Country Protected Areas is likely sufficient to maintain viable populations, especially for the protected areas east of Highway 37. For grizzly bears the Stikine Country Protected Areas provide a large core of protected range, however, it is still not large enough for maintaining a viable population.

Eleven red, blue and yellow listed bird species have been recorded in the Stikine Country Protected Areas (Table 17). Oldsquaw and Upland Sandpipers are recorded as migrants whereas all other species are either known or suspected to breed within the parks.

Table 17. Red, blue and yellow listed bird species observed in the Stikine Country Protected Areas.

Species	**Provincial List**	**Mt. Edziza Park and Zone**	**Stikine River Park**	**Spatsizi Park and Gladys Lake Ecological Reserve**	**Tatlatui Park**
Trumpeter Swan	Blue		+[1]		
Oldsquaw	Blue	+			+
Lesser Golden Plover	Blue	+		+	
Wandering Tattler	Blue	+		+	
Upland Sandpiper	Red			+	
Red-necked Phalarope	Blue	+		+	+
Bald Eagle	Yellow	+	+	+	+
Peregrine Falcon ssp. anatum	Red	+		U	
Gyrfalcon	Blue	+	+	+	+
Short-eared Owl	Blue			+	
Smith's Longspur	Blue			+	+

[1] + = confirmed sighting; U = unconfirmed sighting

1.2.3.10 Prescribed Burning

The Skeena Region Fish and Wildlife Branch carried out a series of small prescribed burns in the Stikine Country Protected Areas between 1986 and 1991 as part of a larger Stone's Sheep habitat enhancement program (Table 18). The objective of the burns was to reduce shrub and young forest growth to reestablish more mountain sheep habitat. Burns could also benefit other wildlife; lower elevation areas within the burns were expected to be especially beneficial for moose. Seven burns were conducted within the six-year period. The largest and most successful burns were in Stikine River Park along the McBride

River and along the Todagin River in Todagin Mountain Park. In Mt. Edziza Park, 150 ha were burned along the Klastline River in 1990 and a further 672 ha were burned the following year to increase the size of the burned area. Fires on sheep ranges rarely achieve 100% coverage because rock ridges, moist draws and slides provide natural fire breaks on all slopes.

A prescribed burn for sheep habitat was proposed for the old burn area at Hyland Post for the spring of 1999, however conditions were not favourable for burning. Another burn was attempted in June 2000. Over 11 000 ha were burned during an attempt to create a firebreak however most of the area burned was outside of the targeted area.

Table 18. Stone's Sheep habitat enhancement prescribed burns in the Stikine Country Protected Areas, 1986-1991.

Todagin Mountain Park	**Mount Edziza Park**	**Mount Edziza Zone**	**Stikine River Park**	**Pitman River Protected Area**	**Chukachida River Protected Area**	**Spatsizi Plateau Wilderness Park**	**Gladys Lake Ecological Reserve**	**Tatlatui Park**
May 1986 1500 ha	May 1989 400-500 ha Taweh Creek		May 1989 1500 ha McBride River			June 1988 (No size data) Eaglenest Creek		
	May 1990 150 ha Klastline					June 1988 (No size data) Tsetia Creek		
	April 1991 672 ha Klastline							

1.2.4 Ecosystem Dynamics/Processes

The Stikine Country Protected Areas encompass 1 417 000 ha of land in northwestern British Columbia. Together they form a system of protected areas that is capable of accommodating landscape level ecosystem processes. Natural disturbances, predator-prey interactions and long distance movements by wildlife contribute to the richness of the natural ecosystems in the Stikine area. Such ecosystem processes are difficult to manage even in large protected areas. The combination of protected areas within the Stikine Country Protected Areas provides a unique opportunity to manage these landscape level processes within protected area boundaries.

1.2.4.1 Natural Disturbance Factors

A wide array of natural disturbance factors have influenced and shaped the ecosystems of the Stikine Country Protected Areas. The ecosystem patterns that we see on the landscape today are the result of large scale and small-scale ecosystem processes. Large-scale events such as glaciation, volcanic activity, snow and landslides have contributed to both the physical and biological make up of the parks. Fire, another large-scale event, is the most significant disturbance factor that has created the current pattern of vegetation on the landscape. In the Stikine Country Protected Areas, the effects of forest insects and windthrow are variable but tend to shape the vegetation mosaic at small to moderate scales. Processes such as forest diseases and solifluction contribute to the variability of vegetation patterns at a much smaller scale.

Glaciation

Historical climatic events have shaped the natural history of the Stikine Country Protected Areas with one of the most significant events being the ice ages and resulting glaciation. During the last ice age in the Pleistocene, the Cordilleran ice sheet reached depths of 2500 metres in some parts of British Columbia. As the glaciers moved they scoured out and deepened valleys significantly. In the eastern part of the Stikine Country Protected Areas, the ice moved east and northeast. On the east side of Mt. Edziza the ice moved in a southward direction. Many of today's lakes are oriented in the direction of ice movement in areas where glaciers overdeepened valleys. As the glaciers melted, channels were eroded. These glacial channels were eventually abandoned when the ice levels dropped and permanent drainage channels were subsequently established. Drainage patterns and watershed systems that exist today have been altered from those that existed prior to glaciation. Glacial melting also resulted in the redeposition of sediments over the landscape. A layer of drift was deposited over most of the country. Some valleys deepened by glaciers have since been partly filled with unconsolidated sands and gravels. Many of today's landforms are the result of erosion or deposition from the last ice advance.

The Pleistocene Ice Age ended about 10 000 years ago. Since then, remnant alpine glaciers have shaped the mountain peaks, cirques and ridges typical of mountains in the region. Following the cessation of the Ice Age about 10 000 years ago the climate was warm and dry and was followed by a cool moist period that resulted in a "little ice age". The climax of the "little ice age" was about 450 years ago with glaciers advancing to their maximum limits since the Pleistocene Ice Age. About 200 years ago, glaciers again began receding. As the glaciers retreat, new areas become available for colonization by biotic communities. Recent glacial retreat is most pronounced in Mt. Edziza Park, and the Northern Skeena Mountains sections of Spatsizi Wilderness Park and Tatlatui Park.

Volcanic Activity

Within the Stikine Country Protected Areas, Mt. Edziza Park has experienced the most recent volcanic activity with the last eruptions occurred within the last 2000 years. Due to the harsh climate at high elevations, colonization of the lava flows, pumice and cones has been extremely slow.

Snow and Land Slides

Avalanches and landslides provide unvegetated substrate in the mountainous areas for colonizing vegetation. Colonization and establishment of vegetation depends on the stability of the substrate and the frequency of events. Avalanche chutes where the substrate is relatively stable provide important spring habitats for bears and ungulates.

Fire

Fire is the most significant natural disturbance factor that has shaped the recent vegetation mosaic of the Stikine Country Protected Areas. Many of the forest stands are of fire origin and still have not reached the climax stage of succession. Climax vegetation is often not reached due to the frequency of fire events.

Many tree species present are adapted to fire and vegetation that establishes on a site following fire is largely influenced by vegetation present on that site prior to the fire. Lodgepole pine produces serotinous cones that open up and release seed when subjected to intense heat such as fire. Trembling aspen reproduces prolifically through root suckering following fire and also produces large numbers of seeds that can disperse great distances. If trembling aspen is not present in the pre-fire stand, its reproduction will be limited to seed dispersal and may comprise a lesser component of the post-fire vegetation structure. White spruce is less adapted to fire with thin bark and shallow roots that makes it highly susceptible to being killed by fire, and has variable seed production with seeds traveling only short distances. Although white spruce may become established immediately following fire, due to its slow growth rate, it is often found in the understorey under aspen. Successional pathways for selected vegetation types in the Stikine Country Protected Areas are summarized in Appendix 6.

Fire occurs most frequently in the Boreal White and Black Spruce (BWBS) biogeoclimatic zone within the Stikine Country Protected Areas (Table 19). Fires can reach thousands of hectares in size and are larger than fires in the other zones. In the Spruce Willow Birch (SWB) and Engelmann Spruce Subalpine Fir (ESSF) zones fires occur less frequently with some sites not experiencing fire for 500 years. Fires in the ESSF tend to be small and may be limited by topography or fuel discontinuities such as rock ridges, scree slopes, or less flammable vegetation. Fires in both the SWB and ESSF may originate in the zone itself or be driven into it from lower elevations. Fires in the Alpine Tundra (AT) zone are relatively infrequent, small and of low intensity. Larger fires in this zone likely originate at lower elevations.

Table 19: Typical historic patterns of wildfire disturbance for biogeoclimatic zones in the Stikine Country Protected Areas (Parminter 1992).

Zone	Cover type	Fire type	Fire Intensity	Mean Fire Return Interval[1] (years)			Fire size (ha)		
				Minimum	Average	Maximum	Minimum	Average	Maximum
BWBS	Black Spruce[2]	Surface and crown	Medium-high	50-75	75-125	125-175	3-5	3000-10000	200000
	Aspen/ Pine/ Spruce			75-100	100-150	140-250			
	Pine/ Spruce/ Fir			100-150	150-200	200-300			
SWB	Fir/ Spruce	Surface and crown	Medium-high	150-200	200-350	350-500	3-5	150-2000	>5000
ESSF	Pine/ Spruce/ Fir	Surface	Low-medium	150-200	200-300	350-500	0.1-5	50-150	150-500
		Surface and crown	Medium-high						
AT		Surface	Low-medium	250	300-400	500-600	0.1-5	5-50	50-150

[1] Mean fire interval refers to the average length of time for fire to return to a site; some sites will burn more frequently while others may not experience fire for significantly longer periods of time

[2] Spruce = white spruce

Fire characteristics can vary within zones depending on vegetation and site features. Fire tends to occur less frequently on floodplains and other wet sites where most disturbance is due to water events. In cases of severe flooding and absence of a white spruce seed source the balsam poplar stands may persist for 200 years.

From 1950-1982, over 650 000 hectares in the Cassiar region of northwestern BC had been burned, of which 500 000 hectares were burned by wildfires (Parminter 1983). The largest total area burned during one year was in 1982 when almost 225 000 ha burned. Lightning occurs within the whole Cassiar region but one area of concentration appears to be in the general area between Dease Lake and Telegraph Creek. Lightning caused wildfires occur most frequently in the summer months (June-August) with a peak in July. Fires caused by range burning peak in May whereas recreation related fires peak in July.

From the 1940s to 1986 all of the wildfires in the Stikine Country Protected Areas area occurred during the years 1958, 1969, 1971 and 1982 (Table 20). From 1987 to 1999, the only significant area burned by wildfire was in Stikine River Park in 1992. Fire size statistics in Table 20 include total area burned by each fire, often encompassing large areas outside of the protected area, and does not include fires less than 20 hectares in size from 1940 to 1986. Four areas in the Stikine Country Protected Areas area have been affected by large wildfires since the 1940s, mostly within and adjacent to Stikine River Park. The Grand Canyon area of the Stikine River experienced three large wildfires in 1958 and 1969. East of Highway 37, 16320 ha were burned along the Chukachida River drainage in 1971 and 5180 ha were burned on the south side of the Stikine River near Cullivan Creek in 1992. In 1982, 7950 ha burned mostly outside of and along the eastern flank of Mt. Edziza Park. No sizeable wildfires were recorded for Spatsizi Plateau Wilderness Park, and no fires (wildfire or human-caused) were recorded for Tatlatui Park or the Gladys Lake Ecological Reserve. Appendix 7 contains a more detailed summary of fires in the Stikine Country Protected Areas.

Human-caused fires appear to have had a greater impact than wildfires in Spatsizi Plateau Wilderness Park and in Stikine River and Mt. Edziza Parks in the vicinity of the Grand Canyon. In Spatsizi Plateau Wilderness Park, 1130 ha were burned near Hyland Post in 1969 and 3970 ha were burned near Buckinghorse Lake in 1981. In Mt. Edziza and Stikine River parks, much of the area between Mess Creek and the Klastline River on both sides of the lake were burned in 1951 and 1952. Parts of the 1951 fires in the Tanzilla area were burned by the wildfire in 1958. In 1967, a human caused fire consumed a large portion of Kinaskan Lake Park. Human caused fires in the Cassiar region of northern British Columbia are common adjacent to favoured travel routes (Parminter 1983). Both human travel and human settlement likely have been contributing factors in the human caused fires in the area around the Grand Canyon of the Stikine River. Between human caused fires and natural wildfires, a significant portion of Stikine River Park west of Highway 37 has been burned since 1950. Parminter (1983) found that several of the human caused fires on the Stikine River appeared to have been burned before. Data on fires prior to the 1950s is not available and precludes an assessment of the detailed history of the sequence of burning on these sites.

A series of small prescribed burns in the Stikine Country Protected Areas were part of a Stone's Sheep habitat enhancement program carried out by the Fish and Wildlife Branch in Smithers between 1984 and 1992. Repeated burning on individual sites may convert a site to a herb-grass or shrub dominated vegetation type, however, without fire, succession on the site would continue. Prescribed burning for habitat enhancement is described in more detail in Section 1.2.3.9.

Although Tahltan history has not been well documented, recent interviews with elders suggested that the Tahltan people did not appear to use fire for enhancing wildlife habitat or berry production, or as an aid for hunting (Joseph 1998). Most elders interviewed did not recall deliberately setting fires for those purposes however two elders from the same family in one of the clans did recall one fire set on Level Mountain and remembered their elders recalling other deliberately set fires for the purpose of managing berry productivity and wildlife habitat. Possibly only one or a small number of families practiced fire management.

Table 20. Summary of human caused and lightning fires in the Stikine Country Protected Areas, 1940-1999. (Source: BC Ministry of Forests Fire Atlas and Historic Fire database).

Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Stikine River Park[1]	Spatsizi Plateau Wilderness Park	Tatlatui Park
Human Caused					
1967 563 ha	1998 384 ha southwest corner	1952 9761 ha South of Stikine River to Buckley Lake and Klastline River	1946 5.1-50 ha North side of Stikine just upstream from Eight Mile Creek	1969 1130 ha Hyland Post	
1988 No size data		1989 15 ha South of Klastline River	1951 40145 ha North and south side of Stikine from Telegraph Creek almost to the Tanzilla River	1981 3968 ha Buckinghorse Creek	
1995 0.1 ha		1991 5 ha South of Klastline River	1951 12950 ha Tanzilla River	1986 60 ha Hyland Post	
			1978 60 ha North of Stikine River just downstream from Eight Mile Creek	1986 163 ha Cullivan Creek	
			1986 46 ha below Chukachida River	1989 No size data Spatsizi River	
			1987 No size data Tanzilla River		
			1988 No size data Highway 37		
			1989 315 ha South side of Stikine River near Klastline River		
			1989 No size data Highway 37		
			1992 0.1 ha Highway 37		
Lightning					
1989 0.1 ha		1958 580 ha East of park and west of Morchuea Lake	1958 20223 ha Tanzilla River area (overlaps two human-caused fires from 1951	1982 100 ha Klappan River near McEwan Creek	1990 No size data West side
		1982	1958	1990	1990

		7947 ha East of Mt. Edziza Park (Willow Creek)	12432 ha Both sides of Stikine River east from Tanzilla River	0.2 ha Chili Creek	1.5 ha West side
		1989 No size data Mowchilla Lake	1969 10039 ha Mostly south side of Stikine River east of Tanzilla River		1990 No size data West side
		1991 0.1 ha Elwyn Creek	1971 16370 ha Chukachida River		1991 0.5 ha West side
		1993 2.0 ha Mess Creek	1971 514 ha Pitman River		
		1998 26.5 ha Buckley Lake	1971 28 ha Pitman River		
		1999 1 ha Klastline	1989 0.3 ha South of Canyon		
			1991 0.2 ha Pitman River		
			1991 0.6 ha Cullivan Creek		
			1992 5178 ha Cullivan Creek		

[1] Includes Pitman River and Chukachida River

Fire suppression has likely had very little influence on the forest mosaic in the Stikine Country Protected Areas due to remoteness and efficacy of fire suppression in the area (Parminter 1983). The vegetation landscape is likely almost identical to what would have occurred without fire suppression intervention.

Fire Management Plans for existing protected areas guide current fire suppression activities. In general, full suppression occurs only where fires threaten existing structures and facilities, and prescribed fire is permitted to enhance wildlife habitats and to rejuvenate vegetation succession. Both Kinaskan Lake Park and the Gladys Lake Ecological Reserve are zoned as "Control" or "Action" zones where all fires receive initial attack and expanded attack in order to suppress all fires. In Mt. Edziza Park and Zone and in Tatlatui Park, initial attack is conducted on all fires. Expanded attack is conducted in "Control" zones in those parks. Control zones center around BC Parks maintained structures (docks, camps, trails) and other significant structures and sites (Klastline Bridge, Spectrum Properties, trapline cabin) in Mt. Edziza Park and Zone and around BC Parks and guide-outfitter camps (Tatlatui Lake, Firesteel River, Kitchener Lake, Stalk Lakes) in Tatlatui Park. The remaining areas within those parks are zoned as "Natural Fire" zones in which each fire is evaluated on an individual basis to determine whether or not expanded attack will be conducted. Spatsizi Plateau Wilderness Park and Stikine River Park east of Highway 16 are divided into "Action" and "Assessment" zones. In "Action" zones, both initial and expanded attack are conducted. Action zones include the low elevation valley of the Spatsizi and Stikine Rivers from the Dawson River downstream to Marion Creek, the Laslui Lake area and the Coldfish and Bug Lakes area. In "Assessment" zones each fire is evaluated on an individual basis to determine whether or not initial attack will be conducted. Fire suppression is a higher priority in Assessment Zone A where values are higher than in Assessment Zone B. Assessment Zone A includes the low elevation valleys of the Spatsizi River, the Upper Stikine River downstream to its confluence with the Spatsizi River, the low elevation valley in the Eaglenest Creek drainage and the low elevation portion of the Stikine River at Highway 37. All areas outside the Action zone and Assessment Zone A are zoned as Assessment Zone B. In both zones, a Strategic Fire Control Plan is developed if initial attack is not conducted or if initial attack fails and expanded attack is implemented. Some updating of fire management plans is required.

Forest Insects and Windthrow

Forest insects and windthrow have had limited impacts on the vegetation landscape in the Stikine Country Protected Areas. Forest insects such as mountain pine beetle (*Dendroctonus ponderosae*) and spruce beetle (*Dendroctonus rufipennis*) do not appear to have significantly altered the forest mosaic in the region. Both beetles attack and kill primarily large mature trees; mountain pine beetles prefer standing trees whereas spruce beetles prefer stressed and/or fallen trees. In British Columbia, the northern extent of mountain pine beetle infestations occurs in the lower reaches of the Sustut River drainage, over 50 kilometres south and east of Tatlatui Park. Although mountain pine beetles may occur at extremely low endemic levels in the forests of the Stikine Country Protected Areas, outbreaks are unlikely due to the cold northern climate. Spruce beetles also likely occur at very low endemic levels but the probability of an outbreak is low due to climatic factors and short growing seasons resulting in unsuitable host trees. Balsam bark beetles (*Dryocoetes confuses*) likely have the most significant presence in the area. Unlike mountain pine beetle and spruce beetle infestations, balsam bark beetle infestation centers tend to be small, radiating outward very slowly. Lodgepole pine beetle (*Dendroctonus murrayanae*) may be present at very low levels but usually only attack stressed trees and does not generally increase to infestation levels. Some unconfirmed reports of beetle killed lodgepole pine trees in Tatlatui Park may be due to lodgepole pine beetle. Another insect that is found south of the Stikine Country Protected Areas is the spruce weevil (*Pissodes strobi*) that attacks and deforms young spruce trees. Conditions in the Stikine Country Protected Areas are likely not favourable for spruce weevils at the present time.

Climatic conditions appear to limit the extent of most forest insect activity in the Stikine Country Protected Areas. Long-term and even intense short-term changes in climatic conditions may result in a more favourable environment for certain forest insects. For example, an extensive spruce beetle outbreak in Kluane National Park in the Yukon in the mid 1990s was the result of several contributing factors. Most of the area attacked was a mature, even aged pure spruce forest. Warm, dry conditions during the early to mid 1990s contributed to the spruce becoming drought stressed and to excellent conditions for beetle reproduction. The normally two year spruce beetle life cycle was shortened to one year and because of the extent of suitable host, the infestation continued beyond the 2-3 years that spruce beetles normally last. If a spruce beetle outbreak occurred in the Stikine Country Protected Areas region, the impacts would not reach the same level as in Kluane National Park since spruce forests in the Stikine Country Protected Areas tend to be of mixed ages and mixed with other trees species at both the stand and landscape level.

If long-term climate conditions in the Stikine Country Protected Areas region become warmer and drier, increased levels of forest insect activity may result. Very little information is available on forest insects in the Stikine Country Protected Areas. The most recent aerial survey was conducted in 1994 and only the area west of Highway 37 was flown. Balsam bark beetle was the most common forest insect detected. Balsam bark beetles are prevalent throughout northern British Columbia and are likely common within the Stikine Country Protected Areas.

Strong inflow winds from the Coast Mountains have the potential to create small to moderate sized windthrow areas. Currently there is no information available on the extent and distribution of windthrow in the Stikine Country Protected Areas.

Water Influenced Events

River and creek erosion cause moderate and small-scale disturbances often resulting in loss of substrate and corresponding vegetation. Unstable clay slopes along the Stikine River between the Pitman and McBride rivers often fail, carrying debris and sediment into the river. One such event carried debris across the entire river forcing the creation of a new channel through the clay and debris. Flooding can also restrict the vegetation species composition in an area by preventing species intolerant to flooding from establishing.

Forest Diseases and Other Small Scale Processes

Very little is known about forest diseases in the Stikine Country Protected Areas. Disturbances caused by forest diseases provide small openings in the forest canopy and do not have the same potential for creating landscape level disturbances in the Stikine Country Protected Areas as do other disturbance factors. Tomentosus root disease (*Inonotus tomentosus*) affects mostly large spruce and to a lesser extent moderate sized spruce. If the disease is present at high levels and if a large component of the stand is spruce, then pine will also be affected. Tomentosus does not usually attack pine where spruce is not present. Other diseases that are possibly present include red-belt fungus (*Fomitopsis pinicola*), velvet top fungus (*Phaeolus schweinitzii*) and white fleck rot (*Phellinus pini*). Red-belt fungus is a saprot/buttrot that affects mostly older pine and spruce trees. Velvet top fungus is a buttrot that affects mostly mature spruce and to a lesser extent mature pine. It is characterized by a brown cubical rot. Phellinus heart rot affects older pine, spruce and subalpine fir trees, regardless of size. All three diseases result in eventual stem failure, providing gaps in the canopy.

Wildlife feeding and activity can also result in gaps in canopy cover. Although the extent of wildlife impacts on trees is minimal, porcupine feeding on pine trees likely has the most impact. Porcupine feeding can girdle and subsequently kill trees.

Other small-scale disturbance processes occur at higher elevations in alpine habitat and are primarily related to snow and frozen ground. Solifluction is the process of slow, gravitational downslope movement of saturated soil over a layer of frozen ground below. Frost action results in frost heaving, churning and stirring of soil. Nivation is the process by which hollows are formed by repetitive and enduring snow accumulation. These small-scale disturbance processes result in very small-scale mosaic patterns in alpine areas.

1.2.4.2 Predator/Prey Relationships

One of the most outstanding biological features of the Stikine Country Protected Areas is the diverse large mammal predator/prey ecosystem that exists in a relatively undisturbed natural setting. The four main species of ungulates that live in northwestern British Columbia – mountain sheep, mountain goats, caribou and moose - are found in all four large parks (Mt. Edziza, Spatsizi Plateau, Stikine River, Tatlatui) and in the Gladys Lake Ecological Reserve. Mule deer, which occur infrequently in northern British Columbia, are found in pockets of habitat in Spatsizi Plateau Wilderness Park, Mt. Edziza Park and the Stikine Canyon area of Stikine River Park. The main predators of these ungulates that are found in the Stikine Country Protected Areas include wolves, grizzly bears and black bears. Other predators such as wolverine, lynx, coyote and golden eagles are known to kill very young ungulates and may also kill adults to a lesser extent.

The dynamics of such diverse predator-prey ecosystems are complex. Fluctuations in the numbers of each species can either directly or indirectly affect population numbers of other species in the system. In general, in ecosystems where predators exist, prey populations are kept at lower numbers than would exist if predators were absent and prey populations were only limited by food availability. Although habitat and food do not regulate prey populations where predators exist, they are basic requirements and must be available in sufficient quantity. Habitat requirements for each prey species are a function of food preferences, environmental conditions and predator avoidance tactics. Both mountain goats and mountain sheep avoid predators by escaping into precipitous terrain (cliffs, rocky slopes) where they are far more agile than the predators. Their foraging areas are therefore restricted to areas adjacent to escape terrain. Moose and caribou avoid predators by running and to a lesser degree by defending themselves. Moose and caribou therefore select habitats based more on food preferences and environmental conditions.

In the Stikine Country Protected Areas system, predators are the most important factor regulating ungulate population sizes. Historical prey population fluctuations and distribution, and management efforts have played a significant role in the current structure of species numbers and distribution. Prior to 1860, moose were either absent or rare in northwestern British Columbia and caribou probably coexisted with a relatively low density of wolves (Bergerud and Elliot 1986). In the late 1800s moose began colonizing British Columbia with populations establishing in the Prince George area in the early 1900s and extending to the west coast and southern BC by 1940 and 1945. Why moose were largely absent from British Columbia prior to the 1900s is unknown since habitat was abundant and readily available. One possible explanation was that it was related to the mini ice age (see section 1.2.4.1), the end of which coincided with moose expansion into BC. Peak populations of caribou and moose occurred in about 1933 and wolf numbers also appeared to increase with the expansion of moose. Caribou and moose generally declined until 1949. From 1949 to 1962, a large-scale wolf poisoning program was implemented in most of British Columbia and ungulate populations increased until about 1968 and then declined again in the 1970s. It has now been almost 30 years without significant influences from predator control so the predator-prey ecosystems in the Stikine Country Protected Areas have returned to a largely natural state.

Coincident with moose expansion into British Columbia has been a reduction in numbers and range of caribou in southern British Columbia. Caribou used to occupy much of the interior portion of the southern half of British Columbia and are now restricted to isolated populations in west central British Columbia and the mountainous areas of southeastern British Columbia. A similar dramatic reduction in caribou numbers and range does not appear to have occurred in northern British Columbia and in the Stikine Country Protected Areas.

Two main predator-prey systems operate within the Stikine Country Protected Areas: one centered around Mt. Edziza Park and Zone (including Stikine River Park east of Highway 37) and the other centered in Spatsizi Park, Gladys Lake Ecological Reserve, Tatlatui Park, Stikine River Park east of Highway 37, Pitman River Protected Area and Chukachida River Protected Area.

The Mt. Edziza system, although not large enough to support self-sustaining predator populations, appears to support annual habitat and life cycle requirements for caribou, Stone's sheep and mountain goats. Those ungulates appear to exist in a mostly "closed" system where immigration and emigration is low. The moose population however, is likely dependent on a larger area and is contiguous with other moose populations. The diversity of ungulate species in a relatively closed system is a significant feature of the Mt. Edziza area. Because of the lack of information on large mammal predators, the status of the predator-prey ecosystem in the Mt. Edziza area is unknown.

The larger Spatsizi area is more capable of supporting a naturally functioning predator-prey ecosystem, however, it still may not be large enough to support a self-sustaining population of grizzly bears or wolves. The Spatsizi system appears to meet the majority of habitat and life cycle requirements for all the other species. Although there is little information on the large mammal predators in the Spatsizi area, minimal human disturbance and development and low levels of hunting suggest that the predator-prey system is likely functioning in a near natural state.

1.2.4.3 Wildlife Movements

Although the Stikine Country Protected Areas protect over 1.3 million contiguous hectares of land, animals will continue to move beyond park boundaries and be influenced by management activities outside of the protected areas. Populations of large mammals such as grizzly bears, black bears, wolves, wolverines, caribou, moose, Stone's sheep and mountain goats are likely to move beyond park boundaries for habitat or life cycle requirements. Smaller animals moving beyond park boundaries are likely dispersers or animals with home ranges near boundaries. The Stikine Country Protected Areas encompass a large enough area to maintain self-sustaining populations of those smaller species.

1.2.5 Significant Biological Features

Although an exhaustive inventory of biological features in the Stikine Country Protected Areas is unavailable, a number of significant biological features are evident (Table 21). The most significant feature of the Stikine Country Protected Areas is the size of contiguous area protected and the diversity of biological features within. The Stikine Country Protected Areas contain 26 species of rare vascular plants, 11 rare plant ecosystems, one rare/sensitive fish species, 10 rare bird species and three rare/sensitive species of mammals. Many of the parks in combination protect large enough areas for self-sustaining fish and wildlife populations. The upper Stikine River system is the only area in British Columbia that fully protects all requirements for bull trout. The Mt. Edziza system protects a diverse and relatively "closed" ungulate system consisting of caribou, mountain goats, Stone's sheep and moose. Spatsizi Park and adjacent protected areas in combination are almost large enough to fully support a diverse large mammal predator/prey system containing grizzly bears, black bears, wolves, caribou, moose, Stone's sheep and mountain goats. That area is also large enough to maintain natural levels of large-scale natural disturbances such as fire.

Table 21. Significant biological features in the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mount Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
Vegetation											
Rare plant species (recorded)		2	13					16		1	
Rare plant ecosystems (recorded)		Boreal steppe (2) Alpine tundra (2)	Boreal steppe (3) Alpine tundra (2) Mineral springs (2) Talus slopes (2)		Boreal steppe (5) Talus slopes (2)			Alpine tundra (2) Talus slopes (2)		Alpine tundra (1) Talus slopes (2)	
Fish											
Large scale Rainbow trout only systems	Iskut River Natadesleen Lake	Iskut River (on boundary)	Mowdade Lake Mowchilla Lake Kakiddi Lake Nuttlude Lake							All waters	
Rare species (recorded)					Only fully protected area in British Columbia enclosing contiguous streams, large rivers and lakes believed to support bull trout in the full diversity of its life histories						
Wildlife											
Predator/ prey system			Mostly "closed" diverse ungulate system		Diverse large scale predator/prey system in a largely natural setting that contains almost all habitat and lifecycle requirements for most of the large mammal species						
Rare bird species (recorded)			6		2			7		4	
Rare wildlife species	3	3	3		3 Area large enough to protect self sustaining populations of fisher and wolverine; Area large enough to protect a core grizzly bear population						
Other species of interest										Pikas Melanistic chipmunks	
Ecosystem processes											
Fire					Area large enough area to maintain natural large scale disturbances such as fire						

2 NATURAL VALUES - HUMAN USES

2.1 Hunting

Hunting of wildlife has been an important sustenance activity for First Nations people in the Stikine Country Protected Areas area, and within the last 100 years has become a significant recreational activity for both BC resident hunters and non-resident hunters. Resident and non-resident hunters must comply with hunting regulations and a guide must accompany non-resident hunters.

Little information exists on current levels of First Nations harvest in the area, so only resident and non-resident hunting statistics are presented. Hunter harvests and hunting regulations in Table 22 are based on old protected area boundaries: Mt. Edziza Park and Zone do not include Mess Creek and Klastline additions; Stikine River Park is based on the old Stikine River Recreation Area (which includes Mt. Brock) and Spatsizi Park excludes Mt. Brock and Metsantan additions. The old boundaries have been used to define zones within Wildlife Management Units that are used in the current hunting regulations. Some of the zones define areas closed to hunting, areas open to Limited Entry Hunting (LEH) only or park specific regulations. It will be important to decide whether to apply these zone specific regulations to the new park additions. Moose harvests are provided only for Spatsizi Park and Stikine River Park east of Highway 37 (Fish and Wildlife Management Unit 6-20A) because moose harvest information is available only at the Management Unit level.

Hunting is not permitted in Kinaskan Lake Park for safety reasons or in Gladys Lake Ecological Reserve because of its ecological reserve status. Otherwise, hunting is permitted in all other parks in the Stikine Country Protected Areas system. Some protected areas or portions of some protected areas are closed for certain species or to certain hunting methods. Mule deer hunting is not permitted in the Stikine Country Protected Areas region. Todagin Mountain Park lies entirely within a No Shooting Area and is closed to mountain goat hunting. The Todagin Mountain No Shooting Area is a popular area for bow-hunting Stone's sheep. Mt. Edziza Park and Zone are closed to caribou hunting and Tatlatui Park is closed to Stone's sheep hunting due to low population numbers in both areas. A portion of Spatsizi Park is also closed to mountain goat hunting due to the low number of mountain goats in that area.

Hunting regulations and guide-quotas for individual parks within the Stikine Country Protected Areas area are rather complicated due to the intersection of a number of guide-outfitter territories and Wildlife Management Units within park boundaries (Figures 11, 12). Stikine River Park (as defined by the old Stikine Recreation Area) is divided into two units: East (east of Highway 37) and West (west of Highway 37) based on Management Unit boundaries. East of the highway the Stikine River Recreation Area (both the MU6-19 and 6-20 portions) was combined with Spatsizi Park (wholly within MU6-20) to create MU6-20A and is currently managed as one unit. For MU6-20A all major species (Stone's sheep, mountain goat, caribou, moose, grizzly bear) are under Limited Entry Hunting regulations and park specific guide quotas. For all other parks, there is a mix of LEH and open seasons as well as a mix of park specific guide quotas, territory specific guide quotas and no guide quotas. Appendix 8 provides a summary of guide quotas for each park unit by guide and of the proportion of their territories within each protected area.

New protected areas not discussed in Table 22 include Mess Creek, Klastline, and Metsantan additions, Pitman River and Chukachida River Protected Areas and Spatsizi Headwaters Park. Mess Creek and Klastline both fall within MU6-21 and each falls entirely within one guide territory. Pitman River Protected Area falls entirely within MU6-19 and one guide territory and Metsantan falls entirely within MU6-20 and one guide territory. Chukachida River Protected Area lies entirely within one guide territory but within two MU's (6-19, 6-20). The northern addition to the Stikine River Recreation Area lies within MU6-19 and one guide territory and Spatsizi Headwaters Park lies entirely within MU6-20 and one guide territory. Currently the general hunting regulations for those Management Units and territory wide guide quotas apply to those new protected areas. As discussed above, it will be important to decide whether to apply hunting regulations for the existing parks to the new protected areas.

Table 22. Summary of hunting regulations, guide quotas and average annual harvests for the Stikine Country Protected Areas 1999/2000. The bag limit for each species is 1. Guide quotas are based on the average annual quota for those species with three-year quota guidelines.

	Todagin Mountain Park	Mount Edziza Park and Zone	Stikine River Park[1]		Spatsizi Plateau Wilderness Park	Tatlatui Park
Wildlife Management Unit	6-20 No shooting area[3]	6-21	6-21 6-22	6-20A[2] (6-19)	6-20A[2]	7-39
Stone's sheep						
Regulation	Open	LEH	Open	LEH		Closed
Season	Aug 1 – Oct 15	Aug 1 – Oct 26	Aug 1 – Oct 15	Aug 1 – Oct 26		
Class	Full Curl	Full Curl	Full Curl	Full Curl		
# LEH permits	N/A	6	N/A	37		
Guide/Outfitter quota	(13)[4]	1	(17)[4]	2 (19)[4]	7(2)[4,5]	
Average annual resident harvest (1990-1995)	0.8	0.7	0.0	0.5	3.7	
Average annual non-resident harvest (1990-1995)	0.3	0.7	0.0	1.5	7.0	
Mountain goat						
Regulation	Closed	LEH	Open	LEH/Closed[6]		Open
Season		Aug 1 – Oct 15	Aug 1 – Oct 15	Aug 1 – Oct 15		Aug 15 – Oct 15
Class		Adult only		Adult only		Adult only
# LEH permits		10	N/A	37		N/A
Guide/Outfitter quota		4	1	1(+)[4]	13(+)[4]	4(8)[7]
Average annual resident harvest (1990-1995)		1.0	1.0	0.5	3.5	2.0
Average annual non-resident harvest (1990-1995)		1.5	1.0	0.7	11.8	2.7
Caribou						
Regulation	Open	Closed	Closed (6-21) Open (6-22)	LEH		LEH/Open[8]
Season	Aug 15 – Oct 10		Aug 15 – Oct 10	Aug 15 – Oct 15		Aug 15 – Oct 15
Class	5 Point Bulls		5 Point Bulls	Bulls only		Bulls only (LEH) 5 Point Bulls (Open)
# LEH permits	N/A		N/A	52		(14)[9]
Guide/Outfitter quota	(+)[4]		(+)[4]	2(17+)[4]	20 (17)[4]	(12)
Average annual resident harvest (1990-1995)	0.0		0	0.0	7.8	0.0
Average annual non-resident harvest (1990-1995)	0.0		0	0.3	16.2	0.5

	Todagin Mountain Park	Mount Edziza Park and Zone	Stikine River Park[1]		Spatsizi Plateau Wilderness Park	Tatlatui Park
Wildlife Management Unit	6-20 No shooting area[3]	6-21	6-21 6-22	6-20A[2] (6-19)	6-20A[2]	7-39
Moose						
Regulation	Open	Open	Open	LEH		Open/LEH[10]
Season	Aug 15 – Nov 15	Aug 15 – Nov 15	Aug 15 – Nov 15	Aug 15 – Nov 15		Aug 15 – Nov 5
Class	Bulls	Bulls	Bulls	Bull only		Immature Bulls(Open) Bulls only (LEH)
# LEH permits	N/A	N/A	N/A	125		(85)[11]
Guide/Outfitter quota	(+)[4]	(+)[4]	(+)[4]	10(11+)[4]	30(11)[4]	(11)
Average annual resident harvest (1990-1995)				8.7		
Average annual non-resident harvest (1990-1995)				22.5		
Grizzly bears						
Regulation	LEH	LEH	LEH	LEH		LEH
Season (spring)	April 15 – June 15	April 15 – June 15	April 15 – June 15	April 15 – June 15		April 15 – June 15
Season (fall)	Sept 1 – Nov 15	Sept 1 – Nov 15	Sept 1 – Nov 15	Sept 1 – Nov 15		Sept 1 – Nov 15
Class	Adult only	Adult only	Adult only	Adult only		Adult only
# LEH permits	(5)[12]	5	20[13] (6-21B) 25[13] (6-22)	7		(5)[11]
Guide/Outfitter quota	(2)	1(2)	0 (2)	3 (2)	1 (2)	(2)
Average annual resident harvest (1990-1995)	0.0	0.2	0.3	0.0	0.2	0.3
Average annual non-resident harvest (1990-1995)	0.2	0.0	0.0	0.2	1.3	0.8

[1] Stikine River Park is divided into two sections: east of Highway 37 (MU6-20A, 6-19) and west of Highway 37 (MU 6-21, 6-22)

[2] MU6-20A includes that portion of MU6-20 that lies within Spatsizi Park and the former Stikine River Recreation Area and that portion of MU6-19 that lies within the former Stikine River Recreation Area; information presented in this table for Stikine River Park is based on the former Stikine River Recreation Area; season, class and number of LEH permits is reported for 6-20A as a whole but harvests are reported for each park (Stikine River, Spatsizi) separately

[3] Todagin Mountain Park lies entirely within the no shooting area in MU6-20; discharge of firearms is prohibited; bow hunting is allowed

[4] (N)=Number of territory-wide guide quota (combined for all guides with portions of their territory in the park) with no specific reference to parks; + indicates no specific quota for the species. (N+) indicates one or more guides with a territory-wide quota and one or more guides with no species quota; for some parks although no specific species quotas for the park exists, that species may not be present in the portion of the guide's territory that lies within the park

[5] For Spatsizi Park most of the park lies within one guide territory with park specific quotas; a small portion of a second guide's territory also lies within the park but that guide does not have park specific quotas; the small portion of the second guide's territory that lies within the park will be expanded with the Metsantan addition which is currently within MU6-20 but not a part of MU6-20A

[6] A small portion of MU6-20A (west side of the Spatsizi Plateau) is closed to mountain goat hunting

[7] Only 4 goats may be harvested from that portion of MU7-39 west of Thutade Creek, Thutade Lake, and the Firesteel River

[8] MU 7-39 zones B,C,D are LEH and include the northern part of Tatlatui Park north of the Firesteel River, Rognaas Creek, Kitchener Lake, Stalk Creek and Stalk Lake; the rest of the park is open for caribou hunting

[9] Total number of LEH permits for zones B,C,D of MU7-39; only portions of those zones occur within Tatlatui Park

[10] Both open and LEH applies to all of MU7-39; open season for Immature bulls only; LEH for Bulls only

[11] Total number of LEH permits for MU7-39; Tatlatui Park covers only a portion of 7-39

[12] Total number of LEH permits for zone B of MU6-20; Todagin Mountain Park covers only a portion of that zone

[13] Total number of LEH permits for zone B of MU6-21 and for MU6-22. Stikine River Park covers only a portion of both MU's

Both resident and non-resident average annual harvests appear to be within limits however further work is required to update the average annual harvest data and to sort out guide quotas.

2.2 Angling

Angling regulations for the Stikine Country Protected Areas generally follow BC Environment region-wide regulations. Tatlatui Park lies within BC Environment Region 7 and all other parks lie within Region 6. Table 23 is a summary of angling regulations relevant to the Stikine Country Protected Areas. Because only rainbow trout occur within Tatlatui Park, only Region 7 regulations pertaining to rainbow trout are presented for Tatlatui Park.

Table 23. Summary of general and special angling regulations for Stikine Country Protected Areas 2000/2001.

	Tatlatui Park[1] (Region 7)	**All other parks** (Region 6)
General regulations – daily catch quotas		
Trout/char	5	5
- Over 50 cm (includes steelhead)	No more than 1	No more than 1
- Dolly Varden/bull trout and lake trout combined	No more than 3	No more than 3
- From streams	No more than 2	No more than 2
- Under 30 cm from streams	-	0[2]
Burbot	-	5
Whitefish (all species combined)	-	15
Arctic grayling	-	3
General regulations		
No fishing April 1 – June 30		Iskut River streams
Barbless hooks[3]		All streams
Single hook	All streams	All streams
Bait ban	All streams	
Set lining		Burbot
Special Regulations		
Trout/char daily and possession quota = 2 (none over 50 cm)		Buckinghorse Lake Klahowya Lake
Rainbow trout daily quota = 2	Tatlatui Lake	
No fishing within 100 m of outlet May 15 - July 31		Buckinghorse Lake Klahowya Lake
Single hook		Buckinghorse Lake Klahowya Lake
Bait ban	Stalk Lakes	Buckinghorse Lake Klahowya Lake
No powerboats		Natadesleen Lake; Iskut River between Kinaskan Lake and Natadesleen Lake

[1] Regulations for Tatlatui Park include only those regulations in Region 7 pertaining to rainbow trout and Tatlatui Park waters (Peace River watershed)

[2] Catch and release only

[3] Barbless hooks for all Pacific streams in Regions 6 and 7

Possession quotas are twice the daily catch quotas. For steelhead in the Stikine River system in Region 6 there is a monthly quota of two and an annual quota of 10. Also, when an angler has caught and retained the daily quota of steelhead they must stop fishing that water for the remainder of that day

Few regulations specific to Stikine Country Protected Areas waters exist. Specific regulations for Buckinghorse and Klahowya Lakes in Spatsizi Park were implemented to maintain the small population of large sized rainbow trout. A bait ban was instituted for Stalk Lakes in Tatlatui Park and a daily catch quota of two rainbow trout was established for Tatlatui Lake. The only other regulation specific to Stikine

Country Protected Areas waters is a ban on powerboats in Kinaskan Lake Park on the Iskut River and on Natadesleen Lake.

There are a number of park use permits for guided angling within the parks (Table 24). For those protected areas in Region 6, angling guides have been allocated rod-days for specific water bodies. Three angling guides operate in Tatlatui Park, however no rod-day allocations are specified.

Table 24. Number of rod days allocated for guided angling for waters in the Stikine Country Protected Areas.

Waters	# rod days	# angling guides
Kinaskan Lake Park		
Natadesleen Lake/Iskut River	65	2
Stikine River Park		
Stikine River	245	3
Tahltan River[1]	90	2
Stikine River Park/Chukachida River		
Chukachida River/Stikine River[2]	20	1
Chukachida River		
Chukachida Lake	120	3
Pitman River		
Pitman Lake	85	1
Spatsizi Plateau Wilderness Park		
Buckinghorse Lake	88	1
Chapea Creek	12	1
Chapea Lake	12	1
Coldfish Lake	192	1
Ella Creek	96	1
Ella Lake	96	1
Hotlesklwa Lake	40	1
Klahowya Lake	30	1
Laslui Lake	260	1
Mink Creek	192	1
Tuaton Lake	190	1
Tatlatui Park		
Firesteel River	-	3
Kitchener Lake	-	3
Rognass Creek	-	2
Stalk Lake	-	2
Tatlatui Lake	-	2

[1] Rod days on the Tahltan River are currently allocated for the Stikine River Recreation Area; the Tahltan River is outside of Stikine River Park

[2] Rod days were allocated for the Chukachida and Spatsizi Rivers combined

2.3 Trapping

Portions or all of 15 traplines lie within the Stikine Country Protected Areas (Figure 13). Regulations follow the general regional trapping regulations. There is a general quota of two black bears in one year otherwise there are no other specific quotas. Table 25 lists trapping season for each species.

Table 25. Trapping seasons for furbearing animals in the Stikine Country Protected Areas.

Species	**Season**
Beaver	Oct 1 – May 31
Muskrat	Oct 1 – May 31
River otter	Oct 1 – May 31
Marten	Nov 1 – Feb 28
Mink	Nov 1 – Feb 28 (Region 6)
	Nov 1 – Feb 15 (Region 7)
Weasel	Nov 1 – Feb 28
Wolverine	Nov 1 – Feb 28
Coyote	Oct 15 – Feb 28
Fox	Oct 15 – Feb 28
Wolf	Oct 15 – Mar 31 (Region 6)
	Oct 15 – May 31 (Region 7)
Lynx	Nov 15 – Feb 15
Squirrel	Nov 1 – Mar 31
Fisher	Nov 1 – Feb 15
Black bear	Oct 15 – May 31

3 CULTURAL VALUES

3.1 First Nations History and Cultural Values

The Tahltan First Nation of the Stikine area is rich and diverse due to the high concentration of resources, such as wildlife, fish, and obsidian available in the area. Tahltan Traditional Territory possesses more than natural resources; it is a collection of identities, experiences and traditions that have been defined by the Tahltan throughout Tahltan history. This diversity can only be briefly covered in a report of this nature. While this report will attempt to identify the most important First Nation's use of the Stikine Country Protected Areas and the focal points of this activity, it is understood that activities may not have been confined to the areas described.

From the perspective of the Tahltan, prior to the LRMP protected areas were unilaterally established without an appropriate level of consultation and affected one third of Tahltan traditional territory. This, combined with the suspected burning of trapping cabins, permitting requirements, wildlife harvesting and access issues resulted in strained relationships between the Tahltan First Nation and BC Parks over the past several decades. The recent signing of the Park Agreement between the Tahltan Joint Councils and BC Parks sets the stage for improved relationships and increased levels of cooperation.

3.1.1 First Nations Traditional Territories

There are several First Nation land claims that cover parts of the Stikine Country Protected Areas and there is some overlap amongst the recorded First Nation lands claims (Figure 14). The Tahltan First Nation land claim covers all of the Stikine Country Protected Areas covered by this report as documented in the 1998/99 Tahltan Traditional Land Use Study. The Tahltan Land Claim area is not shown on the map as the Tahltans are not presently in the treaty process.

A Sekanni/Carrier land claim covers Tatlatui Park and the land claim of the Kaska Dena Council covers the northern and eastern portions of Tatlatui, overlapping with the Sekanni/Carrier claim in this area. Also, the Kaska Dena claim of a portion of the eastern part of Spatsizi Park in the Chapea Creek and Metsantan Creek area overlaps with the Tahltan land claim. The land claim of the Gitxsan borders the southwestern corner Spatsizi Park and the northeastern part of Tatlatui Park, but does not cover any part of the Stikine Country Protected Areas.

3.1.2 First Nations Traditional Uses and Major Sites

3.1.2.1 Hunting/Fishing/Trapping

For hundreds, perhaps thousands of years the Tahltan First Nation fashioned out of the natural landscape, a cultural landscape of traditional activities within the Stikine area that reflected their interaction with nature. The landscape that was encountered by non-native immigrants in the nineteenth century was not therefore a natural landscape devoid of human influence.

The occupation of Tahltan territory in the Stikine area by a radically different non-native culture changed the cultural and natural landscapes in many ways (roads, tools, machinery, buildings, mines, Trophy hunting, etc.) over the years. As new cultures moved into the Stikine area, the Tahltan began to see the world from different perspectives and this subsequently changed the way the Tahltans shaped the landscape.

The introduction of metal was the beginning of major changes in the way the Tahltan used natural resources. Metal tools used for cutting food, hides and chopping, replaced traditional tools made of obsidian, bone and antler. The fur trade disrupted the traditional subsistence and settlement patterns as the increased demands for fur resulted in smaller animals becoming commodities and disrupted some of the traditional Tahltan conservation methods.

The demand for furs also encouraged the Tahltan to hunt more than usual and the search for furs led them on occasion beyond their traditional boundaries causing conflicts with their neighbours on the Taku and upper Nass rivers.

The fur trade, subsistence use and cultural practices would have entailed extensive use of the fish, fauna and wildlife of the area by the Tahltan as part of their everyday life. To obtain their needed food and other resources, a semi-nomadic lifestyle was led as people traveled between different seasonally available food sources. In summer, extended families would aggregate at places with abundant food such as the Tahltan River with its salmon runs and the Klappan area for its caribou and groundhogs. In the early fall, families or family groups would disperse over the landscape to access food sources that are not aggregated such as mountain sheep, mountain goat, moose, beaver, bear, rabbit and berries. This subsistence nomadic pattern is manifested in the Tahltan calendar which names the months after the particular wildlife species available for harvest during that period of the year.

Caribou were an important winter food source. Several families may have lived together and cooperated in the hunting of large mammals during the fall and winter. Prior to the introduction of guns, Tahltans hunted for caribou with long fences erected (3-4 miles long) along migration routes. Snares, bows and arrows, deadfall traps and spears were also used. Although the Tahltan people have used fire to improve hunting and berry production, current evidence indicates that these practices were not used in the area of the Stikine Country Protected Areas (Joseph 1998).

3.1.2.2 Obsidian

The Mt. Edziza area has been a major source of obsidian for native people for the last 9,000 to 10,000 years; as a result the area is highly valued by the Tahltan people. Obsidian is a volcanic glass-like rock that has many uses including arrowheads and various types of knives. Obsidian has been widely traded with Mt. Edziza obsidian being found up to 950 km away in Jasper National Park. The obsidian sites in Mt. Edziza Park are nationally significant in terms of their size, type of raw material and setting. The density of surficial obsidian fragments in Mt. Edziza Park originating from flaking stations is unsurpassed in British Columbia. Obsidian quarries and workshops have been found in a number of areas around Mt. Edziza with 112 sites documented in Mt. Edziza Park; many additional sites have recently been found by the Tahltan Land Claim and Traditional Use research. The obsidian is mostly in high elevation areas of the Mt. Edziza Range with some sites also occurring in northern parts of the Spectrum Range. Because the obsidian is deposited on the surface, these sites are highly sensitive to human disturbance.

3.1.2.3 Caribou Hide and Metsantan

The village of Caribou Hide was established by 1900 at the junction of Metsantan Creek and the Stikine River by the Sekani First Nation. This site was occupied until 1922 when the village was decimated by an influenza epidemic; this epidemic was just one of several epidemics that had severely reduced the native population in the area. In 1922 the village was moved about 12 km upstream on Metsantan Creek to Metsantan Lake to allow supplies to be flown in.

The village of Metsantan was located just outside the boundary of Spatsizi Plateau Wilderness Park but it has close historical ties to areas within the park. Metsantan village was occupied until 1948 when the people from Metsantan moved to either Coldfish Lake to work for Tommy Walker, who had just set up a guide-outfitting operation there, or to Telegraph Creek in 1932, and later to Iskut in 1962. The historical account from interviews with Tahltan elders regarding Tommy Walker's interactions with them differs significantly from the published documentaries and biographies published over the last forty years.

3.1.2.4 Hyland Post Trail

The Hyland Post Trail is a pre-historic trail that runs from Telegraph Creek to Metsantan Lake, passing by Buckley Lake, the Klastline River, Iskut, Coldfish Lake, Hyland Post and Caribou Hide along its route (Figure 15). This trail is called the Hyland Post Trail after the trail established by the Hyland Brothers in the 1920s that follows much the same route as the traditional native trail. The Hyland Post Trail was a major route for the peoples of this area; it was used for seasonal travel between coastal and inland fishing areas, and hunting grounds. The Hyland Post Trail also provided access to obsidian sources on the slopes of Mt. Edziza.

3.2 Non-Native History and Cultural Values

Europeans first visited the area covered by the Stikine Country Protected Areas in 1824 when Samuel Black visited the Firesteel River of Tatlatui Park and parts of the Upper Stikine River. Much of the exploration in this era was related to trapping with both the Hudson's Bay Company and the Russian American Company active in the area. The Hudson's Bay Company prevailed in the upper Stikine River area, while the Russian American Company dominated the Lower Stikine River. In 1825 the Russians and British signed a treaty that defined the boundaries between their territories. The Russians claimed the west coast inland as far as the summit of the coastal mountain range and the British claimed the interior (Ball 1983).

Gold was discovered on the Lower Stikine River in 1861 leading to the exploration of most of the Stikine drainage by 1878. While there was little gold found within protected areas, parts of the protected areas were on travel routes used by people going to gold producing areas. For the first time the Dominion government became involved in developments in the Stikine/Cassiar region when they sent survey parties into the area to have an All-Canadian route to the Yukon. The main area used for travel would be the Telegraph Creek/Dease Lake corridor. Travelers up the Kispiox River may have also traversed protected areas.

During 1897 and 1898 an estimated 6000 – 7000 people passed through the Stikine/Cassiar area on the Teslin Trail with herds of cattle, sheep and horses. By 1899 the boom was over and one of the lasting impacts was the establishment of Canadian sovereignty through the presence of a North West Mounted Police detachment on the Stikine River, and a wharf and Indian Agent at Telegraph Creek (Ball 1983).

The Stikine area became known among hunters after Andrew J. Stone's 1896-1902 expeditions to the Cassiar to collect specimens for the American Museum of Natural History. On these trips Stone identified several "new" species of sheep and caribou. Warburton Pike and his friend Clive Phillips-Wooley were also instrumental in popularizing hunting in the Cassiar (Ball 1983).

The guiding of hunters became a business in the first half of the 20th century, with local native guides such as Ben Frank, Ned Brooks, Peter Dennis, Charlie Abou, Steven Louie and John Creyke being active in this industry. Permanent guide-outfitting camps became a feature of the Spatsizi Park area after the Second World War with the arrival of Tommy and Marion Walker in 1948. The Walkers set up a permanent camp at Coldfish Lake and took over the abandoned Hyland Post. Other guide-outfitters were also getting established at this time including Love Brothers and Lee who had the territory in the Upper Finlay River including Tatlatui Park.

Scientists began to visit the Spatsizi area in the 1950s to investigate the high wildlife values of the area. Tommy Walker also realized the high wilderness and wildlife values of the Spatsizi area and began to lobby to establish a wilderness reserve in the area. The reserve came to fruition in 1975 when Spatsizi Plateau Wilderness Park and Gladys Lake Ecological Reserve were formally established. Tatlatui and Mt. Edziza had already been established as parks by this time, in 1973 and 1972 respectively.

In some respects the Mt. Edziza area has had a very different history to that of the Spatsizi/Tatlatui area. The main non-native development in Mt. Edziza has been the Telegraph Trail. While guided hunting also occurs in Mt. Edziza there are no permanent camps in the area. Trapping and guided fishing have also played a minor role in the history of the Mt. Edziza area. There has been extensive mineral exploration in the Mt. Edziza area with some claims and a developed prospect still being active in the Mt. Edziza Zone (covered in section 9.3).

Kinaskan Lake was used by Steel Hyland, one of the Hyland brothers, who had lakefront property at the south end of the lake. These two lots are now surrounded on three sides by Kinaskan Lake Park.

3.2.1 Telegraph Trail

The route for an overland telegraph line, known as the Collins Overland Project, was surveyed across Mt. Edziza in 1866; this line was intended to connect New York to Europe via the Bering Strait. This line was never built in the Mt. Edziza area as the project was abandoned due to the laying of a trans-Atlantic telegraph cable. In 1900, the Yukon Dominion Telegraph trail was established along much the same route as that surveyed by the Collins Overland Project. The Dominion Telegraph Trail connected the telegraph lines of southern areas to Whitehorse and Dawson City, and operated until 1936 when radio communication superceded it. The operation of the telegraph line entailed the manning of line cabins every 32 kilometres. Pack trains from the Kispiox Valley area serviced the cabins, which are now derelict. Some of the best preserved parts of the line are in the Raspberry Pass area of Mt. Edziza Park where wire and poles may still be seen. The Telegraph Trail was also used as route to the north by gold miners and by several cattle drives.

3.2.2 Hyland Post and the Hyland Post Trail

The Hyland Brothers established the Hyland Post trading post on the Spatsizi River in the 1920s. The trading post was only used for a short period, being abandoned by 1930. Hyland Post began to be used again in 1948 when Tommy Walker started guiding operations in the area and has been in continuous use ever since. There are numerous buildings at Hyland Post, and although privately owned are of historical significance to the area as they represent the earliest European settlement in the Spatsizi area. The present owners are continuing to maintain the buildings at Hyland Post. There are also Tahltan gravesites located at Hyland Post.

The Hyland Post area was recommended for a federal Indian Reserve for the Tahltan and was surveyed by Mr. Ditchman in 1930 (lot 5973) for Mr. Moncton, the Indian Agent. The Tahltan did not demonstrate any interest in this offer at the time. In 1910 the Tahltan had issued a declaration in which they stated that they would not give up their territory to the province without their consent and requested a treaty (Krueger et al. 1971). There was much unrest due to land issues at the time and in 1912 Anglican missionary Thorman reported that many families had left Tahltan, near the mouth of Tahltan River, and retreated to the wilderness "to avoid the white man and his ways" (Krueger et al. 1971).

The Hyland Post Trail was used by the Hyland Brothers as a route from Caribou Hide to Telegraph Creek. The route of this trail may have followed traditional routes that had been used by native peoples. This trail was later used by RCMP patrols, and continues to be used by guide-outfitters and recreationists. The Hyland Post Trail is of historical significance as it was the main native trade and travel route in the area, and it was a route used by early non-native residents and visitors.

3.2.3 Coldfish Camp

Tommy Walker established the present camp on Coldfish Lake in 1948, when he began a guide-outfitting operation in the area. This camp is situated on the site of an important native hunting and fishing camp, is close to a caribou migration route and has ready access to the fish of Coldfish Lake. Thus Coldfish Camp has great historical importance for both the Native and non-native communities of the area. Coldfish Camp was the operations base for Mr. Walker until 1968 when the guiding territory was sold. The 84 ha private lot at Coldfish is now owned by Nature Trust with a 99-year lease given to BC Parks, while the buildings are owned by BC Parks. The buildings at Coldfish Camp have had some efforts at restoration to prevent further deterioration though some buildings were deemed to be beyond repair.

3.2.4 Mining

Mining had important influences on the early development of the Stikine area because of successive gold rushes locally and to the north. Gold was first discovered on gravel bars of the lower Stikine River in 1861 by Buck Choquette. The gold deposits in the Stikine River were small and this initial gold rush was short. Gold was next discovered in 1873 on Dease Lake. This find resulted in the gold rush of 1874, with many miners traveling to the area by riverboat, going up the Stikine River to Glenora, then traveling overland to

Dease Lake. Finally, the Klondike gold rush of 1897-1898 saw many more gold seekers travel through the Stikine area on their way to the Yukon. Prospectors motivated by these gold rushes were active throughout the Stikine area and had surveyed most of the upper Stikine River drainage by 1878. The diseases prospectors brought with them decimated the Tahltan and Sekanni/Carrier Indian populations of the Stikine area and disrupted their traditional lifestyle and trading patterns.

Prospecting in the Stikine and Mt. Edziza areas continued after the gold rushes of the 19th century. The Groundhog coal reserves in the Klappan River were discovered in the early 1900s and a railway to them from Stewart was started in 1908, but only a few miles of track were ever laid. There was also extensive exploration related to the Groundhog coalfield in the upper Stikine and Finlay drainages. In more recent times there have been mineral claims on the eastern slopes of Mt. Edziza which are located within the Mt. Edziza Zone. Although there have been numerous mines in the Stikine area, there have not been any operating mines within the Stikine Country Protected Areas.

3.2.5 Hydro-Electricity

B.C. Hydro had plans in the late 1970s and early 1980s to place dams on the Stikine and Iskut Rivers to utilize their electrical generating potential. This development would have seen two dams constructed in the Grand Canyon of the Stikine River and three dams in the Iskut drainage. There was an extensive inventory conducted at the time on the vegetation, wildlife, archaeology and recreation potential of the areas that would have been affected by these developments. This project was abandoned in the mid-1980s.

A micro-hydro project on Hluey Lake in the Tanzilla River watershed, a tributary to the Stikine River, has recently been developed with involvement of the Tahltan First Nation. This project is one of the few industrial projects in the Cassiar area but is unlikely to have significant downstream effects on the Tanzilla and Stikine rivers. This hydro project provides power to Dease Lake with future phases planned to provide power for Telegraph Creek and Iskut. The project consists of a low diversion dam on Tsenaglode Creek, which drains Sitsa and Turridueh Lakes into Tanzilla River, and a low water intake dam on Hluey Creek, which drains Hluey Lake into the Tanzilla River.

3.3 Archeological Sites

There are presently 214 archeological sites listed with the Archeological Branch located within, or less than two km from, the Stikine Country Protected Areas, based on protected area boundaries before the Cassiar Iskut-Stikine LRMP process. Of these sites, 210 are native sites and four are non-native (Stikine River Recreation Area: 116 sites; Mt. Edziza Park: 59; Spatsizi Park: 33; and Kinaskan Lake Park: 6). The types of sites include: 152 lithic related sites, 27 housing/camp, 24 pit/cache, eight burial, one trail, one corral and one mining. The major archeological sites that have been found include the many obsidian quarries on Mt. Edziza, and major residential sites at Coldfish Lake, Metsantan village and Caribou Hide. Many smaller archeological sites have been found along the Hyland Post Trail and in areas that allowed access to seasonally abundant food sources such as fish and caribou. Very little detailed examination of the archeological sites has taken place with most work being related to site location and some artifact collection. Additional sites found by an Archeological Overview Assessment completed by the Tahltan in 1998 are not included in the above numbers. Undoubtedly there are many more sites yet to be located.

The database of archaeological sites has not been searched for sites within the newly proposed protected areas. There are a number of records of archaeological sites for the Metsantan Lake area as this includes the Metsantan village site and Albert's Hump, a mountain known for its high caribou population. The Tahltan did extensive ground-checking in these areas in 1999. The other proposed protected areas, Todagin Mountain, Mess Creek, Klastline Plateau, and the Pitman and Chukachida rivers, are also very likely to contain archaeological sites as their high wildlife values would have attracted native and non-native usage.

4 RECREATION VALUES

The Stikine Country Protected Areas are internationally known for their outstanding natural values. These values include the high numbers of large mammals found in the area, the landscapes and scenery contained in the mountainous and volcanic terrain, and a major river corridor with a minimum of development. It is these natural values that draw people to the area for recreational purposes and that are culturally significant to the Tahltan people.

4.1 Visual Resources

The scenery of the Stikine Country Protected Areas can be seen from several locations on Highway 37 and from the Telegraph Creek Road. The summit of Mt. Edziza is visible from Highway 37 just south of the Stikine River, and in places along the Telegraph Creek Road. Also visible from this part of the Telegraph Creek Road are some north-facing slopes above the Klastline and Stikine Rivers such as Mt. Meehaus. The Stikine River itself is visible from the Telegraph Creek road near Telegraph Creek and from the Highway 37 Bridge that spans the river. There are no significant areas of the recommended additions that are visible from the main roads of the area. There may be small areas of lower Mess Creek that are visible from the Telegraph Creek area.

In a survey of backcountry visitors to the Stikine Country Protected Areas in 1992 and 1993, 85% of respondents indicated that viewing spectacular scenery was a very or somewhat important reason for their trip to the protected areas.

4.2 Outdoor Recreation

Access to the Stikine Country Protected Areas is gained on land by foot, skis and horseback, and on water by canoe, kayak, raft and jet-boat. Recreational activities in all the parks, except for Kinaskan Lake Park and the road accessible parts of the Stikine River Park, are related to wilderness experiences. But due to the remoteness of the area, even the recreational activities that occur in the front-country parts of the Stikine Country Protected Areas may feel like wilderness experiences for some users.

There are a large number of recreational activities conducted within the parks. These activities are varied and include: hiking, mountaineering, canoeing, skiing, rafting, photography, hunting, fishing, and horseback-riding, with park-use-permits issued for all of these activities. These activities are often combined within one trip; for example many hikers and canoeists do some fishing and photography on their trip.

The backcountry activities in the parks can be divided into three groups: land-based activities, water-based activities and snow-based activities. Although there is some overlap between these groups, especially the land- and water-based, they are to a large extent carried out in different areas of the parks.

The water-based activities in the Stikine Country Protected Areas include canoeing, rafting, fishing and jet-boating with many visitors including hunting as part of their trip. The canoeing, rafting and jet-boating are centered on the Spatsizi and Stikine Rivers, with the Klappan, Pitman, McBride and Chukachida Rivers also being used by jet-boaters, mainly for hunting purposes.

Canoeing and rafting parties on the Upper Stikine River or the Spatsizi/Stikine Rivers travel down to the pullout at the Highway 37 Bridge. Downstream of this bridge the Grand Canyon of the Stikine River starts. This is a very dangerous stretch of river that is usually considered unrunable, however, some white-water experts have recently kayaked and rafted this section of the river. Some jet-boats use the lower end of the Grand Canyon of the Stikine River, coming upstream from Telegraph Creek.

Natadesleen Lake and the Iskut River in Kinaskan Lake Park are used by some canoeists and for fishing. More recently the chain of lakes on the eastern border of Mt. Edziza Park, Mowchilla, Kakiddi and Nuttlude lakes, have been used for canoeing trips.

Land-based activities in the Stikine Country Protected Areas are centered around the main hiking routes, these are the Eaglenest Creek and McEwan Creek trails, and Coldfish Lake in Spatsizi Park, and the route between Buckley and Mowdade Lakes in Mt. Edziza Park. There are a number of possible hikes in the Coldfish Lake area including the Spatsizi Plateau, along the north shore of Coldfish Lake to Mink Creek, Black Fox Creek, Airplane Valley, Danihue Pass and Icebox Canyon. Other trails and routes in Spatsizi Park include the Hyland Post Trail, the Plateau Trail at Hyland Post, the Tahltan Trail, that traverses from Eaglenest Creek to Klappan River, and routes around and between Laslui, Tuaton, Happy and Hotlesklwa Lakes; some of these trails and routes may be most suitable for horse travel. Other routes in Mt. Edziza Park include the Buckley Lake Route from Buckley Lake to Telegraph Creek, the route from Little Ball Lake to Mowdade Lake, and the route called "Alesga" that goes from Buckley Lake to Kinaskan Lake.

There is presently a limited amount of snow-based activity within the Stikine Country Protected Areas including some private fly-in use of the Coldfish Camp, and some commercial trips offered to Hyland Post, Laslui Lake and Tatlatui Lake. There is good quality ski touring within these areas but the use is low due to the remoteness of the area and the lack of facilities. The completion of the Iskut to Telegraph trail will result in more winter use.

4.3 Park Facilities

The largest park facility in the Stikine Country Protected Areas is the 50-unit campground, boat launch and two short maintained trails located in Kinaskan Lake Park (Figure 16). The other frontcountry facilities are the information shelter and toilet in the Stikine River Park beside Highway 37 just south of the Stikine River Bridge and the Tuya River Valley viewpoint trail on the Telegraph Creek road.

The other large facility in the Stikine Country Protected Areas is the camp at Coldfish Lake in Spatsizi Park that has 10 cabins, two sheds and a wharf. Coldfish Camp is a focus of land-based activities within Spatsizi Park, and BC Parks has volunteer park hosts there for five months of each year.

BC Parks has provided wharves for planes to dock at, bear caches and backcountry pit toilets at Mowdade and Buckley Lakes in Mt. Edziza Park. There are also backcountry pit toilets at the campsites on Tuaton Lake and at Fountain Rapids in Spatsizi Park, and at Beggerlay Canyon in Stikine River Park. There are public cabins on the Stikine River three km downstream of the Spatsizi/Stikine confluence, and on Kitchener Lake in Tatlatui Park. There is also a parks cabin on Gladys Lake in Gladys Lake Ecological Reserve; as this cabin is in an ecological reserve it is used for research purposes only. A rough unmaintained boat launch and a backcountry toilet exist on the Stikine River at Highway 37 for jet-boats going upstream from this point.

The only regularly maintained long-distance trails within the Stikine Country Protected Areas are the Eaglenest Creek trail in Spatsizi Park, and the Buckley Lake to Mowdade Lake in Mt. Edziza Park (Figure 15). The condition of these trails must still be considered as being primitive. All other backcountry trails must be considered routes due to their remoteness, and the lack of maintenance and marking.

There are four short portage trails on the canoe routes in the Stikine Country Protected Areas. The Didene Creek Portage Trail is a five kilometre trail that provides access to the Spatsizi River from the BCR rail grade. The other three portage trails are all on the Stikine River; they allow paddlers to avoid dangerous water at Fountain Rapids, Chapea Creek and Beggarly Canyon.

There are no BC Parks developed facilities within the newly protected areas; there are however some existing facilities in these areas. The Klastline Trail that leads from Iskut village to Buckley Lake in Mt. Edziza Park traverses the Klastline addition to Mt. Edziza Park. The Metsantan Lake addition to Spatsizi

Park is at the eastern end of the Hyland Post Trail. The Hyland Post Trail is still used by some guide-outfitters and recreationists but the condition of the trail in the added area is not known. There is a trail up Todagin Mountain from near Tatogga Lake that can be used to access Todagin Mountain Park.

4.4 Backcountry Structures

There have been numerous structures built in the backcountry areas to support the visitors to these areas. There are 118 structures presently known in the Stikine Country Protected Areas based on old protected area boundaries (Table 27). This list includes both BC Parks and commercial establishments. There are also known structures within the newly protected areas at Frog and Pitman lakes in Pitman River Protected Area, Chukachida Lake in Chukachida River Protected Area, and on Mess Lake and Creek in the Mess Lake addition to Mt Edziza Park.

In order to maintain the wilderness character of the Stikine Country Protected Areas it is important to manage the number, location and character of structures within this area. BC Parks has been active in removing inappropriate structures from the Stikine Country Protected Areas; for example some water gauging stations that had cables spanning the Stikine and Spatsizi Rivers have recently been removed.

Table 26: Backcountry structures located in Stikine Country Protected Areas

Type of Structure	**Gladys Lake Ecological Reserve**	**Mt. Edziza Park**	**Spatsizi Plateau Wilderness Park**	**Stikine River Park**	**Tatlatui Park**
Cabin	1		14	5	11
Lodge/Cookhouse			1	1	1
Barn				1	
Shed			7	2	2
Smokehouse			1	1	1
Cache		2	7	1	
Toilet/Shower		2	6	1	7
Corral		1	7		
Tent Frame			5		
Stored wall tent			7		7
Dock		2	4		4
Bridge			2	1	
Communication			1	2	
Total	1	7	62	15	33

4.5 Backcountry Maintenance

While protected area visitors are expected to remove their own garbage, there are some camps within the Stikine Country Protected Areas that have garbage accumulations that are in need of clean-up and the prevention of further garbage accumulations. These garbage problems are mostly associated with camps that do not have permanent facilities and may be used by a variety of visitors. The camps in need of clean-up include Park Creek camp in the Stikine River Park, Ram Creek camp in Spatsizi Park, and Chakima Creek camp in Mt. Edziza Park.

4.6 Significant Historical and Recreational Features

Numerous cultural, historical and recreational features have been identified in the Stikine Country Protected Areas even though a complete inventory of cultural features is not available (Table 27).

Table 27: Significant historical and recreational features of the Stikine Country Protected Areas.

	Kinaskan Lake Park	Todagin Mountain Park	Mt. Edziza Park	Mt. Edziza Zone	Stikine River Park	Pitman River Protected Area	Chukachida River Protected Area	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
First Nations History			Many obsidian workings and archaeological sites Hyland trail		Many archaeological sites			Metsantan village Caribou Hide village Hyland Trail Many archaeological sites			Spiritual values
European History			Telegraph Trail					Coldfish Lake camp Hyland Post and Hyland Trail			
Recreational values	Cascade Falls Non-motorized lake fishing	Mountain sheep viewing Bow-hunting for Sheep	Hiking on Spectrum Range & Mt Edziza Sheep hunting		Wilderness canoeing	Moose hunting	Moose hunting	Wilderness canoeing Hiking Sheep, Goat, Caribou and Moose hunting	Not for recreational usage	Rainbow trout fishing Hiking	

5 PARK ACCESS

Due to the remoteness of much of the area covered by the Stikine Country Protected Areas, access can be quite difficult. This is in keeping with the wilderness character of the parks. Access can be attained by a number of methods including road, air, foot, horse and boat. Boat and air access issues exist in terms of hunters harvesting in areas contiguous to protected areas.

5.1 Road Access

There are few roads in the Stikine area that give access to the Stikine Country Protected Areas; the only two all weather roads are Highway 37 and the Telegraph Creek Road. Highway 37 provides access to Kinaskan Lake Park and a small part of Stikine River Park including the boat launch at the Highway 37 bridge. The Telegraph Creek Road gives access to the day-hiking trails in Stikine River Park that are discussed in section 5.3.

The Willow Creek Forest Service Road branches west off Highway 37 south of Kinaskan Lake Park and comes to within two km of the eastern boundary of Mt. Edziza Park. A trail to Mowdade Lake that originates at Kinaskan Lake and crosses the Willow Creek Road is not in good condition. The mining exploration that is occurring in Mt. Edziza Zone could result in the improvement of the Willow Creek Road if mining does proceed. There is an LRMP recommendation/approval for a road to be constructed to the Spectrum Mine property in the Mt. Edziza Zone that would likely have to pass through Mt Edziza Park.

The Omineca Mine Road, originating from Fort St. James, comes to within several kilometres of the eastern boundary of Tatlatui Park. This road presently does not receive heavy usage by park visitors, likely due to the lack of facilities in the area. However, recreational activities are increasing in the areas adjacent to the park that are accessible from the Omineca Mine Road.

5.2 Road Access via the BCR Rail grade

British Columbia Railways was being extended to Dease Lake in the 1970s. This extension was designed to facilitate resource development in the Cassiar region, including the Groundhog coal reserves in the headwaters of the Klappan River. The railway was never completed in the Klappan area on the south-west boundary of Spatsizi Park, though the rail grade was constructed. The rail grade follows the Klappan River and passes through Stikine River Park. As part of the project a rail bridge was constructed over the Stikine River twenty-one km upstream of the Highway 37 Bridge and two km downstream of Beggerlay Canyon.

Although the rail grade does not enter Spatsizi Park, it has had a major influence on access to the south-western boundary of the park as it is drivable with four-wheel drive vehicles. The rail grade has been maintained by the Iskut First Nation Band to maintain access to their traditional camps set up in July and August. Parts of the rail grade are also maintained by mining companies for ongoing exploration or for restaking claims. The rail grade is also used by hikers, hunters and horseback parties accessing the McEwan Creek, Eaglenest Creek and Tahltan trails, and canoeing parties using the Didene Creek Portage Trail to access the Spatsizi/Stikine River canoe route. The BCR Rail grade is only three km from Spatsizi Headwaters Park.

5.3 Foot and Horse Access

There are few routes visitors can use to access the backcountry areas of the Stikine Country Protected Areas on foot or by horse from main roads. Mt. Edziza Park is the only park with established routes leading to it from the main roads. It is accessible by three routes: 1) the Mowdade Trail from Kinaskan Lake to Mowdade Lake, which is not maintained and is in poor condition, 2) the Klastline River Trail from Iskut to Buckley Lake and 3) the Buckley Lake Trail from Telegraph Creek to Buckley Lake, which requires crossing the Stikine River at Telegraph Creek. Klastline Plateau and Todagin Mountain parks can be accessed on foot or by horse via the Klastline Trail and the Todagin Mountain Trail respectively. Mess Creek is accessible by crossing the Stikine River at Telegraph Creek but there are no known trails within this area.

5.4 Boat Access

The majority of boat access to the Stikine Country Protected Areas is by jet-boat up the Stikine River from Highway 37. Jet-boats are able to travel up the Stikine River as far as the Chukachida River at certain water levels; the first 13 km of the Chukachida River is also passable to jet-boats. Jet-boats are also able to travel up the Spatsizi, Klappan and Pitman Rivers; all tributaries to the Stikine River. The Spatsizi River is closed to jet-boat traffic until September 1st of each year, except for the guide-outfitters who are permitted to use jet-boats to access their guiding territories. The majority of the jet-boat use on the rivers is by hunters in the fall. Canoeists and rafters using the Stikine River fly into Tuaton or Laslui Lakes, and those using the Spatsizi/Stikine canoe route use the Didene Creek Portage Trail.

5.5 Air Access

Float planes are the most common mode of access to the Stikine Country Protected Areas. Commercial float plane landings take place on many lakes within the parks including, but not restricted, to Buckinghorse Lake, Coldfish Lake, Tuaton Lake, Laslui Lake and Cartmel Lake in Spatsizi Park; Buckley Lake, Mowdade Lake and Little Ball Lake in Mt. Edziza Park; Kitchener Lake, Stalk Lake, Tatlatui Lake and Trygve Lake in Tatlatui Park; and the Stikine River in various locations. The airstrip at Coldfish Lake is no longer maintained, but it is still used by a small number of private planes each year. There is also a private landing strip at Hyland Post that the owners use to bring clients into their guiding area. Helicopters are also used to access the parks, however few visitors hire helicopters the take them into the protected areas. There is an airstrip in Schaft Creek, a tributary to Mess Creek; this airstrip is outside the protected area and is used to access the mineral claims in Schaft Creek.

BC Parks can play a role in managing private plane access to protected areas in conjunction with federal authorities and float plane associations.

5.6 Other Access

The use of all terrain vehicles and snowmobiles is not permitted in protected areas under the Park and Recreation Area Regulations. Specific exceptions could involve the exercise of aboriginal rights within protected areas.

6 COMMERCIAL ACTIVITIES

There are a variety of commercial activities permitted to occur within the Stikine Country Protected Areas, including guided hunting, guided angling, horseback tours, hiking, skiing, canoeing, rafting and trapping.

6.1 Hunting Guides

There are currently nine guide-outfitters that have all or part of their guiding territory within the Stikine Country Protected Areas (Figure 12, Appendix 8). A number of these guide-outfitters have permanent camps within the Stikine Country Protected Areas, these camps may consist of cabins for client and staff accommodation, corrals and various outbuildings. Additionally there are fly camps for use when groups are away from the main camp. Horses used for guiding operations are not overwintered within the parks and only pelleted feed is allowed to be brought into the parks. The guide-outfitters that have operations within the park are allowed to access their camps with jet-boats.

6.2 Angling Guides

There are a number of park use permits for guided angling within the parks (Table 28). The permits vary from those guides whose main activity is fishing, to those guide-outfitters who have obtained park-use-permits to allow hunting clients to do some fishing as part of their stay in the park. The majority of the guided angling occurs in lakes and creeks in Spatsizi Park, Tatlatui Park, and the upper part of Stikine River Park, with rainbow trout, Dolly Varden and grayling being the main species caught. Natadesleen Lake in Kinaskan Lake Park is popular for rainbow trout fishing. There are no angling guides operating in Mt. Edziza Park or Mt. Edziza Zone. For those parks in Region 6 angling guides have been allocated rod-days for specific water bodies. Three angling guides operate in Tatlatui Park, however no rod-day allocations are specified.

6.3 Outdoor Recreation Guides

There are currently a number of park use permits for commercial outdoor recreational activities in the protected areas (Table 29). The permitted activities include hiking, mountaineering, canoeing, photography, river rafting, skiing and horseback tours. None of the commercial operators are allowed to use Coldfish Camp or the main campsite on Buckley Lake, or to bring canoes to Buckley Lake for the use of their clients. There is currently one commercial jet-boat operator permitted to use the park.

Todagin Mountain Park and Spatsizi Headwaters Park are both within the license area of the commercial recreation permit held by the National Outdoor Leadership School (NOLS). These areas comprise only a small portion of the area under permit to NOLS.

6.4 Trapping

Trapping animals was a mainstay of traditional native life in the area. Commercial trapping also has a long history in the area with the first recorded European visitor to the area, Samuel Black, being an employee of the Hudson's Bay Company looking for beaver pelt sources. There are 15 trapline areas within the Stikine Country Protected Areas (Appendix 9); only two of these areas presently hold park-use-permits with BC Parks. The remaining areas are considered to be inactive. The existing economics of trapping and the uncertainty of trapping rights and permitting issues within protected areas by Tahltan First Nation members have contributed to these lines being inactive.

6.5 Commercial Facilities

There are a number of facilities associated with the commercial recreational activities and trapping that occurs within the Stikine Country Protected Areas (Figure 16, Table 30). Many of these facilities were present before the protected areas were established. There are two types of facilities: permanent camps that consist of structures such as cabins, cookhouses, wharves and corrals, and fly camps that may contain corrals, tent frames, caches, and toilets. BC Parks must approve upgrading or improvement of all facilities.. Most of these facilities are associated with the guide-outfitting industry with only four known trapping cabins: three in the Mess Lake addition to Mt. Edziza Park, and one on the Stikine River.

Table 28: Angling guides with park use permits for Stikine Country Protected Areas, the waters for which permits are held and their allocated rod-days.

Protected Area	**Streams and lakes permitted on**	**Rod days allowed**	**Angling guide**
Kinaskan Lake Park	Natadesleen Lake/Iskut River	15	Mendel E.
		50	Zweifler G.
Spatsizi Plateau Wilderness Park	Buckinghorse Lake	88	Collingwood R.
	Chapea Creek	12	
	Chapea Lake	12	
	Coldfish Lake	192	
	Ella Creek	96	
	Ella Lake	96	
	Hotlesklwa Lake	40	
	Klahowya Lake	30	
	Laslui Lake	260	
	Mink Creek	192	
	Tuaton Lake	190	
Stikine River Park	Chukachida Lake	10	Kossler, H.
		20	McCowan, H
		90	Nyuli, C.
	Chukachida River	20 (combined with Stikine R.)	Nyuli, C.
	Pitman Lake	85	Geraci, G.
	Stikine River	190	Collingwood R.
		25	Egeler E.
		30	Geraci G.
		20 (combined with Chukachida R)	Nyuli C.
Tatlatui Park	Firesteel River	None allocated	Collingwood R.
			Fleming R.G.
			Henderson B.
	Kitchener Lake	None allocated	Collingwood R.
			Fleming R.G.
			Henderson B.
	Rognass Creek	None allocated	Collingwood
			Henderson B.
	Stalk Lake	None allocated	Collingwood R.
			Fleming R.G.
	Tatlatui Lake	None allocated	Fleming R.G.
			Henderson B.

Table 29: Recreational activities with permits, the permit holders, level of use allowed in the Stikine Country Protected Areas.

Activity	Recreation permits	Use level allowed	Mount Edziza Park	Kinaskan Lake Park	Spatsizi Plateau Wilderness Park	Stikine River Park	Tatlatui Park
Land-based activities							
Hiking	Bear Enterprises	6 clients/yr	*				
	Planet Explorer Group	6 clients/yr	*				
	Rain Walker Expeditions	24 clients/yr	*				
	Stikine River Song Café and General Store	5 clients/yr	*				
	Linders, Anne Marie	16 clients/yr			*		
	Collingwood, R.	Not specified			*	*	
	Northern Sun Tours	Not specified			*	*	
	Fleming, R.G.	Not specified					*
	Henderson, R	Not specified					*
Hiking and fishing	Stikine River Song Café and General Store	18 clients/yr	*				
Day hiking	Stikine River Song Café and General Store	168 clients/yr	*			*	
Horseback Tours	McLean, R	Not specified	*		*	*	
	Collingwood, R	Not specified			*	*	
Photography	Collingwood, R	Not specified			*	*	
	Fleming, R.G.	Not specified					*
	Henderson, R	Not specified					*
Skiing	Collingwood, R	Not specified			*	*	
	Northern Sun Tours	Not specified			*	*	
	Fleming, R.G.	Not specified					*
	Henderson, R	Not specified					*
Tourists	Collingwood, R	Not specified			*	*	
	Fleming, R.G.	Not specified					*
	Henderson, R	Not specified					*
Water-Based activities							
Canoeing	Althaus, H. and B.	Not specified	*	*			
	Northern Sun Tours	Not specified			*	*	
	Solo Cat Sports	6 clients/yr				*	
	Walden's Guiding and Outfitting	5 clients/yr				*	
Jet-boat	McLean, R.	Not specified			*	*	
River rafting	Collingwood, R	Not specified			*	*	
	Nahanni River Adventures	48 clients/yr			*	*	
	River League Wilderness Rafting Adventures	12 clients/yr			*		

Table 30: Location and type of commercial recreation and trapping facilities within the Stikine Country Protected Areas.

Facility	Protected Area	Location	Owner
Permanent camp	Chukachida River Protected Area	Chukachida Lake	Nyuli, C
	Mt. Edziza Park	Mess Lake	Cottrell, K
		Mess Creek (2 sites)	
	Pitman River Protected Area	Frog Lake	Geraci, G
		Pitman Lake	
	Spatsizi Plateau Wilderness Park	Buckinghorse Lake	Collingwood, R
		Bug Lake	
		Laslui Lake	
		Rainbow Camp (on Coldfish Lake)	
	Stikine River Park	Chukachida River	Nyuli, C
		Stikine River	Geraci, G Kossler, H.
	Tatlatui Park	Firesteel River	Collingwood, R.G. Fleming, R.G.
		Kitchener Lake	
		Stalk Lake	
		Tatlatui Lake	Henderson, R.
Fly Camp	Mt. Edziza Park	Buckley Lake	Creyke, B
		Chakima Creek	
		Williams Camp	
	Spatsizi Plateau Wilderness Park	Bear Creek	Collingwood, R.
		Cache Creek	
		Dawson River	
		Ella Lake	
		McDonald Camp (Eaglenest Creek)	
		Ram Creek	
		Ross River	
		Tuaton Lake	
		Waterfall Creek	
	Stikine River Park	Cullivan Creek	

7 USE LEVELS AND ZONING

The use of the Stikine Country Protected Areas is measured by a variety of methods, including car counters, campground registrations, backcountry registration boxes, park host counts and commercial operator reports. For the front-country day-use areas at Kinaskan Lake Park and Stikine River boat launch visitor numbers are obtained using car counters. For the campground at Kinaskan Lake Park, visitor numbers are obtained from the campground registrations. The numbers are presented as the number of parties visiting these areas.

For backcountry areas the estimates of visitor numbers are subject to error due to the remoteness of the access points and the voluntary filling out of park user cards, therefore the use statistics are estimates at best. The comparison of figures between years assumes that the level of self-registration is the same each year, but there is no way to verify this assumption. It appears that there are problems in the recording of backcountry user numbers because of the large yearly fluctuations in numbers in some areas. The numbers presented are actual counts of people from the above mentioned sources and are not estimates.

There are no long-term records of the usage of the backcountry areas of the Stikine Country Protected Areas; yearly records are not available for any backcountry area before 1992 though some single year records are available. The figures presented here include both private and commercial usage of backcountry areas. The actual numbers used for the figures in this section are located in Appendix 10.

7.1 Frontcountry Areas

7.1.1 Kinaskan Lake Park

The use of the campground at Kinaskan Lake Park increased steadily in the late 1980s and early 1990s after a drop in usage from the 1986 and 1987 levels (Figure 17). Usage peaked in 1995 with the last four years seeing fluctuating usage levels. The usage of the day-use area at Kinaskan Lake Park has been quite variable with a peak in 1993 after four years of steady growth, and a large decline to lows in 1997 and 1998. There was a strong increase in day-use area usage in 1999. The campground at Kinaskan Lake Park is open from May 15th to September 30th of each year.

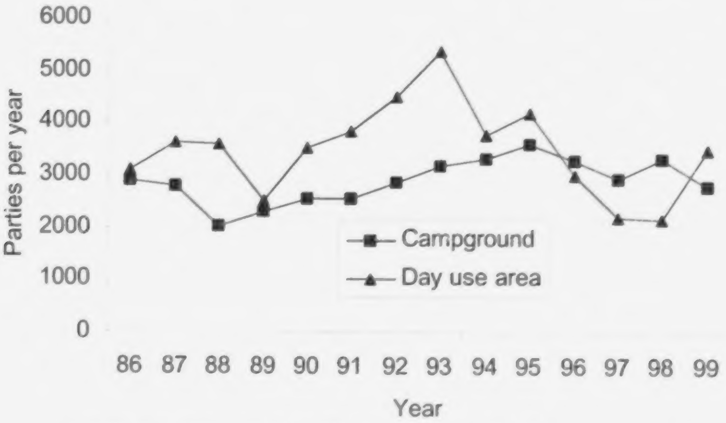

Figure 17: Number of parties per year using the campground and day-use area at Kinaskan Lake Park.

The campground at Kinaskan Lake Park has a very short season with July and August being the busiest months, and June having about one-half the number of users as the peak months (Figure 18). The use pattern for the day-use area is slightly different than that of the campground with the busy season being slightly earlier (Figure 19). The day-use area is busiest in July, and June is busier than August. This indicates that the two areas of the park cater to slightly different clienteles.

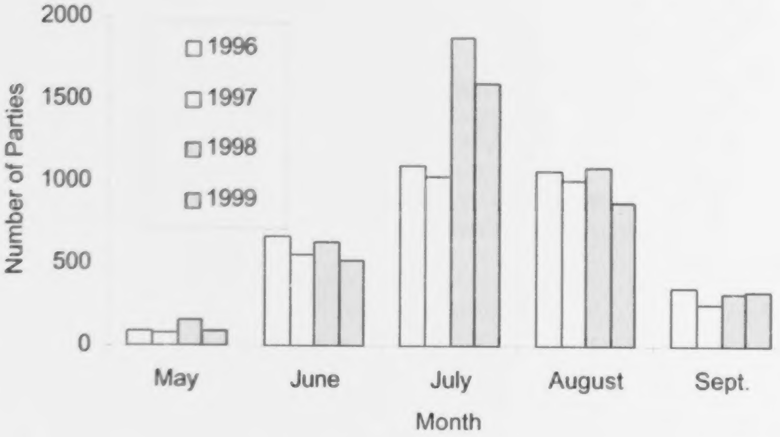

Figure 18: Seasonal distribution of the use of the campground at Kinaskan Lake Park for 1996 to 1999.

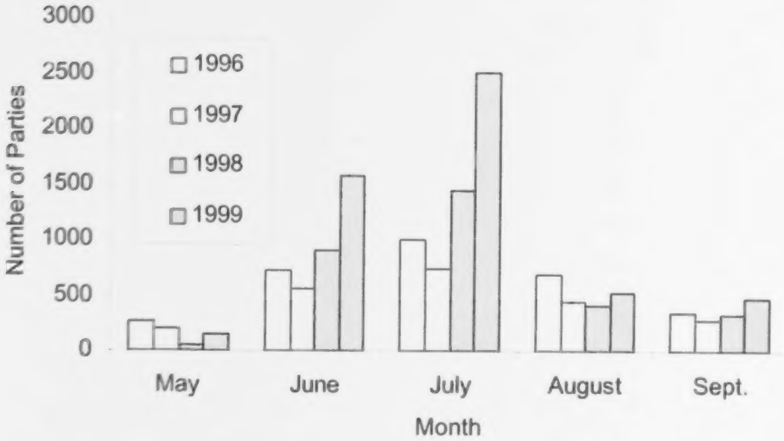

Figure 19: Seasonal distribution of the use of the day-use area at Kinaskan Lake Park for 1996 to 1999.

7.1.2 Stikine River Park

The counts for usage of the Stikine River Park are made at the entrance to the boat launch area at the Highway 37 Bridge, so these numbers do not reflect actual usage of the river. Usage of the Stikine River declined greatly for the period 1996 to 1998 with a large increase in 1999 (Figure 20). This follows closely the use trends recorded at Kinaskan Lake Park day-use area; this is likely reflecting the use of both areas by highway travelers through the area. Actual use of the Stikine River by canoeists and rafters will be discussed under the section on Laslui and Tuaton Lakes, while jet-boat use is not actually measured.

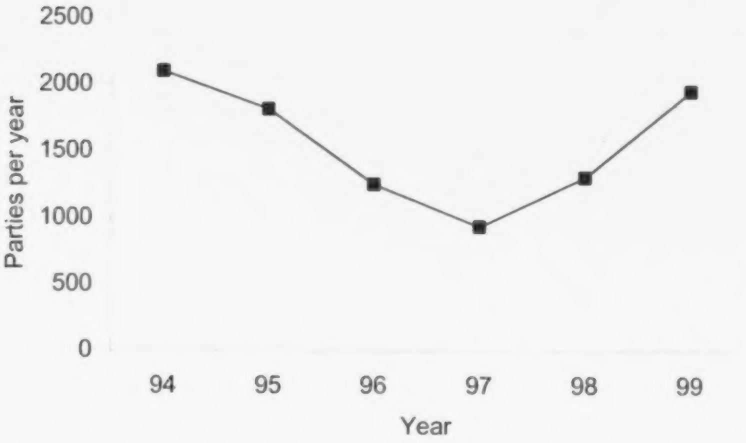

Figure 20: Number of parties per year using the boat launch area by the Highway 37 bridge in the Stikine River Park.

7.2 Backcountry Areas

Although the use statistics for backcountry areas in the Stikine Country Protected Areas are incomplete and somewhat erratic for individual areas, use appears to have increased since 1986.

7.2.1 Spatsizi Plateau Wilderness Park

There are several areas for which user counts are made in Spatsizi Park; these areas will be discussed individually and then combined for an overall figure of park use. The number of visitors at Coldfish Lake has been 53% lower in the last three years than the average use was in the previous five years (Figure 21). The use of the last three years is similar to that reported in 1986 when there were 137 visitors reported.

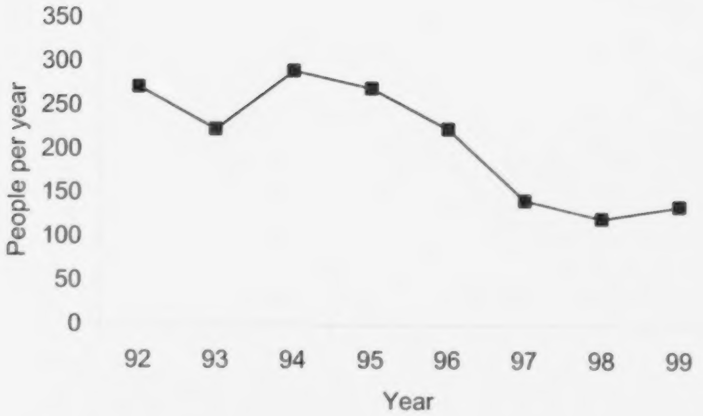

Figure 21: Number of people per year using Coldfish Lake Camp in Spatsizi Plateau Wilderness Park.

The usage of the Eaglenest and McEwan Creek trails into Spatsizi Park has been highly variable in the last six years with peaks in 1994, 1996 and 1999 (Figure 22). Overall there has not been a trend of increasing or decreasing use in the last six years. The usage has increased greatly since 1986 when only eight backpackers were recorded in Spatsizi Park; however this comparison must be used with caution as the recent figures includes resident hunters whereas the 1986 figure does not. Resident hunter use figures are not available for 1986.

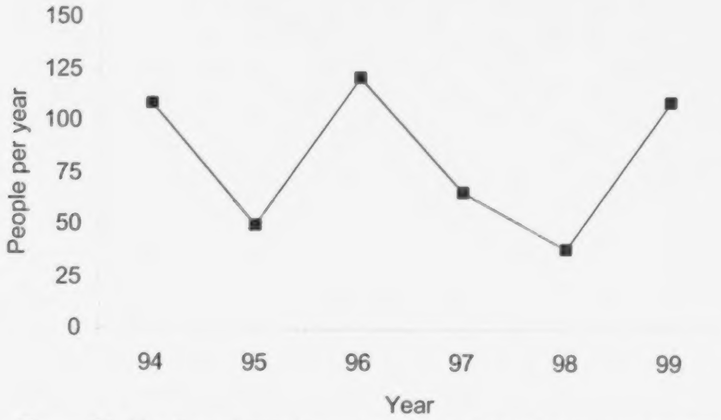

Figure 22: Number of people per year using the backcountry trailheads at Eaglenest and McEwan Creeks in Spatsizi Plateau Wilderness Park.

The usage of the Didene Creek Portage Trail in Spatsizi Park has been fairly even over the last six years except for a very high use year in 1995 (Figure 23). This trail was established in the early 1980s but usage statistics are not available for the first 10 years.

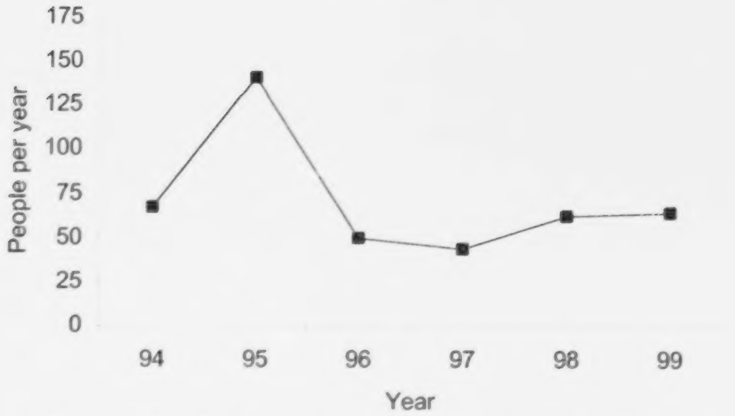

Figure 23: Number of people per year using the Didene Creek Portage Trail to access the Spatsizi River in Spatsizi Plateau Wilderness Park.

The usage of the Spatsizi River has been highly variable over the last seven years with very low use years in 1994 and 1995, and very high use years in 1993, 1996 and 1998 (Figure 24). The figures for 1994 and 1995 may not be reliable due to the great discrepancy from other years; these figures are also lower than the 76 people who traveled the Spatsizi River in 1986. If the figure of 76 users in 1986 is representative of the average usage of that period the average usage in the period from 1993 to 1999 (excluding 1994 and 1995) represents about a 3-fold increase in usage levels. The data for Spatsizi River usage is mostly derived from hunting and angling guide reports so does not include much private unguided use; hence the trends in usage may not follow the trends seen for usage of the Didene Creek Portage Trail.

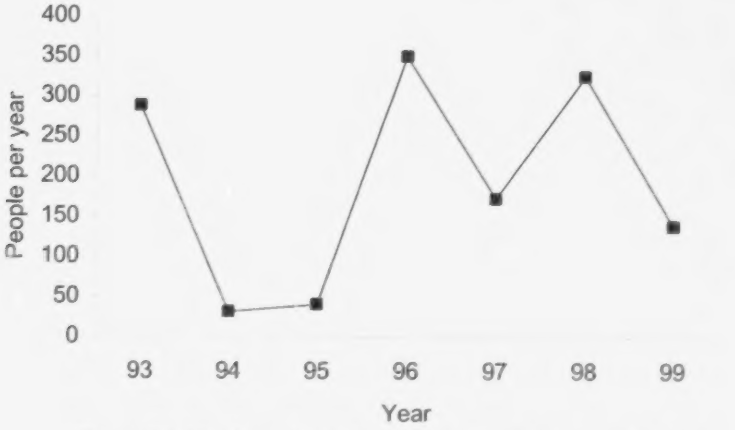

Figure 24: Number of people per year using the Spatsizi River.

The usage of Laslui and Tuaton lakes was much higher in 1999 than in any of the previous five years (Figure 25). This must not be seen as an indication of continued growth as the usage in the previous five years varied greatly from year to year. The usage in the low years of 1996 and 1998 was very close to the usage in 1986 when 47 people traveled down the Stikine River.

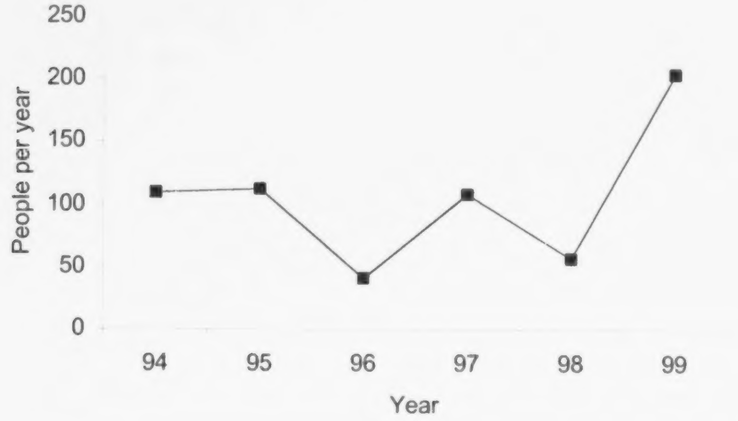

Figure 25: Number of people per year using Laslui Lake and Tuaton Lake in Spatsizi Plateau Wilderness Park .

The overall backcountry usage of Spatsizi has been fairly flat over the last six years (Figure 26), despite the large yearly fluctuations in some specific areas of the park. The 1997 Interim Recreation Management Statement reported that visitor use had increased steadily over the last decade, but this does not appear to be the case. However, usage of the park is certainly up from 1986 when 324 people used the park and from 1980 when an estimated 200 to 300 people used the park.

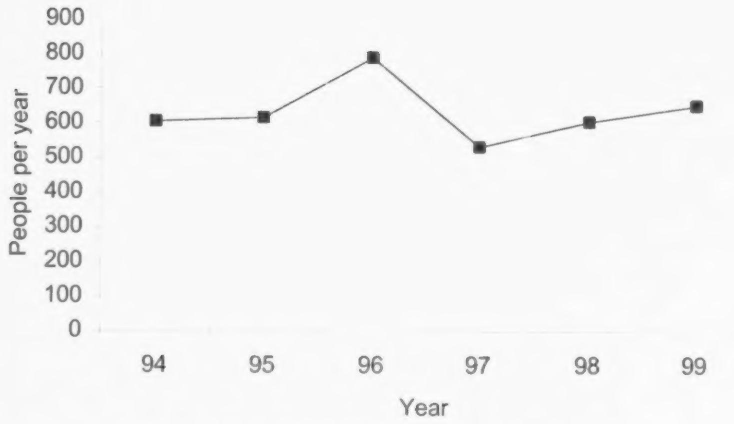

Figure 26: Number of people per year using the Spatsizi Plateau Wilderness Park.

The seasonal distribution of visitors to Spatsizi Park shows that July and August are by far the busiest months (Figure 27). The park has visitors using it into October; this is much later than frontcountry areas such as Kinaskan Lake Park that is closed by the middle of September. The majority of the late season use of Spatsizi Park is by hunters.

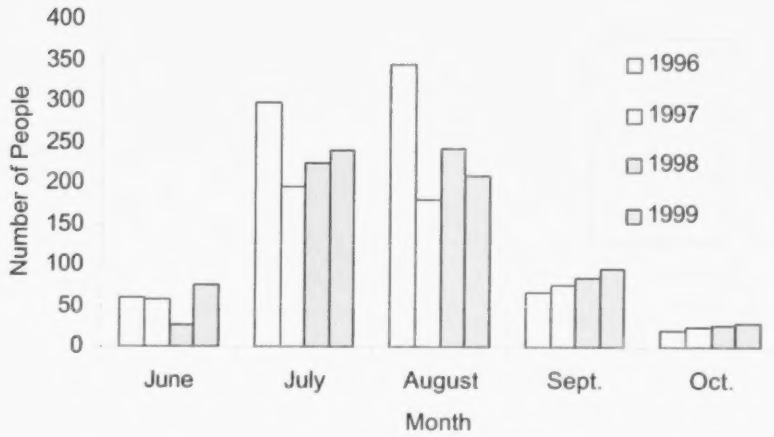

Figure 27: Seasonal distribution of the visits to Spatsizi Plateau Wilderness Park for 1996 to 1999.

7.2.2 Mount Edziza Park

The usage of Mt. Edziza Park is quite variable from year to year (Figure 28). The use in the last four years has been much lower than in the peak year of 1995. There are no usage statistics available for Mt. Edziza Zone, but there are not likely to be many recreational visitors to this area due to the lack of access and facilities.

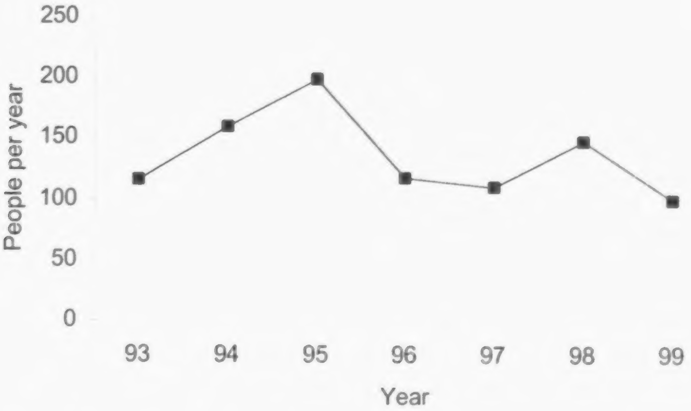

Figure 28: Number of people per year using Mount Edziza Park.

7.2.3 Tatlatui Park

The visitor statistics for Tatlatui Park are incomplete due to the remoteness of the area and the difficulty of gathering data in the area. The average number of visitors in the seven years with data is 193 people per year, with a high of 270 visitors and a low of 132 visitors. The majority of the usage of Tatlatui Park is by the commercial guides that operate there with few private visitors arriving in the park.

7.3 Recreational Impacts

In 1998 a Backcountry Recreation Impact Monitoring program was implemented in the Stikine Country Protected Areas. The condition of 12 campsites in Mt. Edziza, Spatsizi and Stikine River parks were documented to allow monitoring of the change in conditions of these sites over time. This program was implemented because of reports that some campsites were showing signs of deterioration from overuse. The monitoring program of 1998 found the Buckley Lake campsite in Mt. Edziza Park to be in poor condition, and the Willie Williams and Chakima Creek camps in Mt. Edziza Park, and the Fountain Rapids camp in Spatsizi Park to have some signs of deterioration. There have also been anecdotal reports of a decline in the quality of angling on Tuaton and Laslui Lakes in Spatsizi Park.

7.4 Visitor Satisfaction

In addition to the physical and ecological changes that may occur in parks due human use, the quality of the visit experienced by the visitor must also be considered. The wilderness experience that visitors expect from these parks can be a quality factor in the Stikine Country Protected Areas. In a survey of visitors in 1991 to 1993, 92% of respondents indicated that their trip into the backcountry of the Stikine Country Protected Areas met or exceeded their expectations, or they were mostly or completely satisfied. In that same survey, 65% of respondents indicated that the level of use was about right/definitely okay. It thus appears that the present level of usage is not detrimental to the quality of the experience of most visitors to the protected areas. However, there is concern about the wilderness experience that visitors to the protected areas obtain; for example visitor use can be concentrated in certain locations such as the Coldfish Lake area in Spatsizi Park and the Firesteel River in Tatlatui Park.

7.5 Present Zoning Designations

The present zoning of the Stikine Country Protected Areas reflects the wilderness character of the majority of the park area and the high value of the Grand Canyon of the Stikine River (Table 31). Due to the long period of time since the planning processes in the Stikine Country Protected Areas occurred, some of the zoning designations are no longer used or the criteria used to meet a certain zoning designation may have changed. Because of the present zoning guidelines for BC Parks, and the developments at areas such as Coldfish Lake, Bug Lake, Laslui Lake, Upper Stikine River and Kitchener Lake, the wilderness zoning designation for Spatsizi and Tatlatui parks needs to be reviewed. To meet the criteria of a wilderness recreation zoning there must be minimal facility development; the limited development must be solely for user safety and convenience, i.e. trails, docks and primitive campsites, or for environmental protection.

Five of the new protected areas and additions (Mess Creek, Klastline River, Stikine River and northern extension, Metsantan, Todagin Mountain) were recommended for Class A Park status by the Cassiar Iskut-Stikine LRMP. The Pitman River and Chukachida River were recommended for designation as protected areas under the *Environmental Land Use Act* to allow for potential road access routes through the protected areas. Values to be protected and management direction provided by the LRMP for those recommended protected areas are summarized in Appendix 11.

Table 31: Present zoning of the Stikine Country Protected Areas.

Protected Area[1]	**Zoning Designation**	**Location**
Kinaskan Lake Park	Intensive Use	• Campground and day-use area at north end of park
	Natural Environment	• Rest of park except campground and day-use area
Mount Edziza Park	Wilderness recreation	• Entire park
Mount Edziza Zone	None	
Spatsizi Plateau Wilderness Park	Wilderness	• Entire park
Stikine River Park (i.e. former Stikine River Recreation Area)	Intensive Recreation	• Highway 37 crossing • Telegraph Creek road
	Natural Environment	• Tuya-Tahltan River • BCR Rail grade (Klappan River)
	Special Feature	• Grand Canyon of the Stikine River • Tahltan Canyon • Tuya Canyon
	Wilderness Recreation	• All areas upstream of BCR Bridge • Areas north and south of the special feature zone on the Stikine Canyon
Tatlatui Park	Wilderness	• Entire park

[1] Gladys Lake Ecological Reserve is not zoned as ecological reserves cannot be zoned for different uses.

8 INHOLDINGS, LAND TENURES AND PERMITS

8.1 Inholdings

There are four inholdings within the Stikine Country Protected Areas (Table 32). Three inholdings are located in Spatsizi Park. Two inholdings at Hyland Post adjoin each other and are one of the bases of operation for R. Collingwood's guiding operations. The inholding at Coldfish Lake covers the site of Tommy Walker's guiding operation; this lot was purchased by the National Second Century Fund (now known as the Nature Trust of British Columbia) and is leased to the province. There is one inholding in Stikine River Park on the Stikine River near the Hwy 37 Bridge. No legal access to that lot exists and which must be addressed before changing the status of the Stikine River Recreation Area to Stikine River Park. There are also two private lots on the shores of Kinaskan Lake; these lots are surrounded on three sides by Kinaskan Lake Park but are not totally surrounded by the park so are not considered inholdings.

Table 32: Inholdings in the Stikine Country Protected Areas.

Protected Area	Location and Description	Size (hectares)	Status
Spatsizi Plateau Wilderness Park	D.L. 5773, Hyland Post	52	Private
	D.L. 5974, Hyland Post	108	Private
	D.L. 6686, Coldfish Lake	84	Private
Stikine River Park	D.L. 371	10.9	Private

8.2 Park-Use-Permits

8.2.1 Aircraft Permits

There are presently 10 companies with aircraft landing permits in the protected areas including both float plane and helicopter companies (Table 33). The permits generally do not limit the number of landings allowed under the permit or the locations they are allowed to land except for a total restriction on landings in Gladys Lake Ecological Reserve. Private floatplanes are presently not controlled by BC Parks but by federal aviation regulations.

Helicopter landing spots are generally not specified in permits, although there are several conditions on all helicopter permits including: 1) no landing on any cinder cones within Mt. Edziza Park; 2) no landing in Gladys Lake Ecological Reserve; 3) no flying below the rim of the Grand Canyon of the Stikine River Park from May 15 to July 15.

Table 33: Commercial aircraft permit holders for the Stikine Country Protected Areas, location of their base and protected areas they are permitted to land in.

Rotary	Base Location	Mt. Edziza Park	Spatsizi Plateau Wilderness Park	Stikine River Park	Tatlatui Park
Canadian Helicopters	Smithers	*	*	*	*
Highland Helicopters	Smithers		*		*
Northern Mountain Helicopters	Prince George		*	*	
Pacific Western Helicopters	Dease Lake	*	*		
Vancouver Island Helicopters	Bob Quinn Lake	*	*		
Fixed					
Alpine Lakes Air	Smithers				*
Graham Air	Telegraph Creek	*			
Harbour Air	Tatogga Lake	*	*	*	
Northern Lights Air	Smithers	*	*	*	*
Tsayta Aviation	Fort St. James				*

8.2.2 Grazing Permits

There are three grazing permits for horse grazing within the Stikine Country Protected Areas, all of which are located in the Stikine River Park (Table 34). These permits are administered and monitored by the Ministry of Forests.

Table 34: Grazing permits in the Stikine Country Protected Areas.

Protected Area	Permit holder	Location
Stikine River Park	Creyke, B	Lower Tanzilla R. and adjacent Stikine R.
	Iskut Band Council	Lower Klappan R. and Klastline River area
	Williams, W	North side of Stikine R. near Hwy #37 bridge

8.2.3 Other Permits

There are three park use permits for activities not covered under other sections of this report. These permits are related to road access through park areas and communications sites (Table 35).

Table 35: Miscellaneous permits for Stikine Country Protected Areas.

Other Permits	Use	Protected Area
Northwest Tel	Communications	Spatsizi Park
		Stikine River Park
Ministry of Transportation and Highways	Communications	Stikine River Park
	Telegraph Creek road realignment	Stikine River Park
	2 gravel pits - gravel removal and highway waste dumping	Stikine River Park
	Rock quarry	Stikine River Park
North American Metals Corp.	Access road	Stikine River Park

Some facilities that were not compliant with the wilderness character of the parks have recently been removed including several water gauging stations on the Stikine and Spatsizi rivers.

8.3 Mineral Tenures

The only current mineral tenures in the Stikine Country Protected Areas area are in Mt. Edziza Zone. The claims within Mt. Edziza Zone have been active since about 1975, and include the Red Dog, Spectrum and Red claims. These claims are still active and it is possible that a mine will be developed. The boundaries of the former Mt. Edziza Recreation Area were adjusted in 1989 to follow the boundaries of those mineral claims. Recently, the Cassiar Iskut-Stikine LRMP recommended that the recreation area status be changed to an Area-Specific Resource Management Zone, the Mt. Edziza Zone. This position was put forward by the Tahltan LRMP delegation and is strongly supported by the Tahltan leaders. Further details of this arrangement are discussed under section 9.4.

8.4 Special Considerations

There are two areas that are of high mineral potential that were given special considerations by the Cassiar Iskut-Stikine LRMP: the Mt. Edziza Zone, and the area covered by mineral claims near Metsantan Lake. These areas are considered worthy of park protection but due to the high mineral values are not presently included in protected areas. The intent is to include these areas within the adjacent protected areas in the future. For both areas, existing mineral tenure areas have been excluded from the protected areas, and will be open for staking, mineral exploration and mine development for 20 years from the date of LRMP approval. At the end of 20 years, if no mineral tenures in place, these areas will be added to the protected area. Tenures in place 20 years from plan approval will be added to the protected area once the tenures lapse.

Access to the Mt Edziza zone will be managed cooperatively between BC Parks and the responsible agencies, and will consider the park management plan for Mt. Edziza Park. Commercial forest harvesting is not permitted in this zone. A complete set of management strategies for Mt. Edziza Zone from the Cassiar Iskut-Stikine LRMP is summarized in Appendix 12.

Special consideration has also been given to the upper Pitman River and upper Chukachida River protected areas for allowing a mining road to cross the protected areas. The road would allow access to mineral developments that may occur in the area if, after a thorough review, it is determined that no practicable alternative exists outside the protected areas. As a result, the two protected areas will be designated under the *Environmental Land Use Act* rather than as Class A parks.

8.5 Land Tenures

There is one mineral tenure in Chukachida River Protected Area. The Cassiar Iskut-Stikine LRMP table recommended that this tenure be discontinued and negotiations to be held with the tenure holder regarding the terms of the discontinuance.

There is one water rights tenure within Todagin Mountain Park for a small hydroelectric project owned by a local resident.

Currently there is a tenure for the Highway #37 right-of-way in the Stikine River Recreation Area. The status of the tenure needs to be addressed with the new Class A park designation. One option is to exclude the highway right-of-way from the park when it is designated a Class A park.

In the Mess Lake addition to Mt. Edziza Park there is an existing trapper that lives full-time in his trapping cabins. This is a non-conforming use of his trapline tenure. The Cassiar Iskut-Stikine LRMP has recommended that this non-conforming use be allowed to continue until he no longer holds the trapline tenure for this area.

9 ADJACENT LAND USES

9.1 Cassiar Iskut-Stikine LRMP

The Cassiar Iskut-Stikine LRMP has recommended three categories of management direction: General Management Direction, Area-Specific Management (Area-specific Resource Management Zones) and Protected Areas. General Management Direction applies to the whole LRMP area outside of protected areas and sets a baseline for management of cultural heritage, access, biodiversity/ecosystem health, forest harvesting, mineral and energy resources, botanical forest products, recreation/tourism, visual quality, hunting/guiding/trapping/fishing and settlement/agriculture/range. For Area-Specific Resource Management Zones, General Management Direction applies unless otherwise indicated in the direction given for each zone. Areas adjacent to the Stikine Country Protected Areas include both Area-Specific Resource Management Zones and land under General Management Direction.

General Management Direction applies to most of the area surrounding Mt. Edziza Park and Stikine River Park west of Highway 37 except two Area-specific Resource Management Zones (Middle Iskut, Kakiddi/Mowdade/Nuttlude Lakes) on the east side of Mt. Edziza Park. The Middle Iskut Zone adjacent to the southeast part of Mt. Edziza Park does not include any specific recommendations for land use management adjacent to Mt. Edziza Park. Recommendations for the Kakiddi/Mowdade/Nuttlude Lakes Zone (adjacent to the eastern flank of Mt. Edziza Park) include preparing a recreation management plan that is integrated with the park management plan for Mt. Edziza Park, designating viewscapes from the Kakiddi lake chain as a known scenic area, and managing public access on existing and new roads in conjunction with the recreation management plan and the park management plan for Mt. Edziza Park.

Kinaskan Lake Park is encompassed within the Iskut Lakes Zone. Relevant management direction for that zone includes preparing a recreation plan for the Iskut area, designating viewscapes from the Iskut Lakes (including Kinaskan Lake) as known scenic areas, and managing forest harvesting (including road development) to maintain visual quality from known scenic areas.

Todagin Mountain Park lies entirely within the Todagin Zone, which is recommended for designation as a wildlife management area. The management emphasis in this zone is to conserve Stone sheep populations and habitat and other wildlife values integrated with mineral exploration and development, and includes a number of recommendations for wildlife management, access management, wildlife viewing and managing recreational use levels to minimize impacts on wildlife.

Spatsizi Plateau Wilderness Park and Stikine River Park east of Highway 37 are flanked on the west side by the Klappan Zone. In addition, Spatsizi Headwaters Park is entirely encompassed within this zone. Forest harvesting is not permitted in the Little Klappan River drainage and is deferred from the greater Klappan River drainage for 15 years to determine how well provisions in General Management Direction are addressing biodiversity, wildlife habitat, riparian ecosystems and recreation. Mineral and Energy Resources and Access Management will be managed under General Management Direction.

General Management Direction applies to the area adjacent to the north-central and east sides of Stikine River Park, the east side of Metsantan, the south side of Pitman River Protected Area and to the area surrounding Chukachida River Protected Area. The Hottah-Tucho Lakes Zone is adjacent to the north side of Pitman River Protected Area and to the northeast portion of Stikine River Park. Management recommendations in this zone include access management, access planning, and maintaining grizzly bear habitat and predator-prey system links with adjacent areas (Spatsizi/Stikine River Parks, Fort Nelson LRMP, Mackenzie LRMP and Cassiar-North). The McBride Zone is adjacent to the north side of Stikine River Park in the McBride River drainage area. Recommendations for this zone include adaptive ecosystem management strategies to maintain caribou and moose winter range during forest harvesting, maintaining visual quality from the Stikine River, and managing public use of any new access near the Stikine River in cooperation with BC Parks.

9.2 Other LRMPs

Five additional planning areas are adjacent or in close proximity to the Stikine Country Protected Areas including the northern part of the Cassiar planning area, the Fort Nelson LRMP area, the Mackenzie LRMP area, the Fort St. James LRMP area and the North Kalum.

Planning processes have not yet started for the northern part of the Cassiar planning area or for the North Kalum. The northern part of the Cassiar planning area lies to the north of the Cassiar Iskut-Stikine LRMP area and is adjacent to the northern extension of Stikine River Park. The North Kalum is adjacent to the southwest part of the Cassiar Iskut-Stikine LRMP and is in close proximity to Spatsizi Headwaters and Spatsizi Plateau Wilderness parks. Currently both planning areas are relatively unroaded.

Two management zones of the Fort Nelson LRMP area lie adjacent to the northeast corner of the Cassiar Iskut-Stikine LRMP, just north of Pitman River Protected Area. The Rainbow Resource Management Zone in the western portion is part of the Muskwa-Kechika Special Management Category of Resource Management Zones. The majority of this zone is currently unroaded. The intent of the Muskwa-Kechika Special Management designation is to allow resource development while minimizing impacts on other resource values. The Denetiah Protected Area lies adjacent to the east side of the Rainbow Resource Management Zone.

The Mackenzie LRMP, which includes Tatlatui Park and is adjacent to the eastern boundary of the Cassiar Iskut-Stikine LRMP, has not yet been completed. Management zones proposed for the area include a General Resource Management Zone (Thutade – Tu Dade [above the canyon] General RMZ) adjacent to the north, east and south sides of Tatlatui Park and to the southeast side of Metsantan, and a Special Resource Management Zone (Frog Tehkahje [Frog] RMZ) adjacent to the eastern end of Pitman River Protected Area and the northern fork of Chukachida River Protected Area. Management direction for the area between those two zones (Obo River – Yah – Hya [Johiah] RMZ) and adjacent to the eastern end of Chukachida River Protected Area has not yet been decided however two zones (Special Resource Management, Enhanced Resource Management) are currently being considered. Some special management may be considered to connect the Chukachida River and Pitman River protected areas to the Finlay River however no protected areas are currently being recommended for that purpose. Also, there may be some consideration to break up the Thutade – Tu Dade (above the canyon) General RMZ into subzones with a special management zone adjacent to Tatlatui Park. Both the Frog Tehkahje (Frog) RMZ and the Obo River – Yah – Hya (Johiah) RMZ are currently unroaded.

The Fort St. James LRMP area lies adjacent to the western boundary of Tatlatui Park and to the southern boundary of Spatsizi Plateau Wilderness Park. The northernmost portion of the LRMP area is zoned as the Groundhog Special Management RMZ. The intent of the zone is to emphasize the significant fish and wildlife values while allowing resource development only if impacts on other resource values are minimized and resource values are maintained. Coordinated access management planning is also required. South of the Groundhog Special Management RMZ and adjacent to the southwest portion of Tatlatui Park is the Skeena Multi-Value Resource Management Zone. The intent of this zone is to integrate a wide range of resource values. Although access is relatively unrestricted, with the exception of some special management concerns, coordinated access management planning is required. Currently both zones are unroaded although the BC Rail Grade right of way runs through the Skeena RMZ.

9.3 Potential Future Mining Access Routes

Currently most of the areas adjacent to the Stikine Country Protected Areas are unroaded. However, with the potential of future mines and other developments in areas adjacent to protected areas, road access may increase. In general, minerals and coal will likely be transported by road, rail or barge whereas oil and gas pipelines will likely follow existing infrastructure. Access routes will also depend on the type of ores being mined, the location of the smelters they will be shipped to, current access and any future access that will exist at the time of development.

Most of the current mineral tenures and other mineral activity in the Cassiar Iskut-Stikine LRMP area are concentrated in the lower Iskut and Stikine River areas. In the Mt. Edziza Park area, the Schaft Creek claims lie close to the western boundary of the park near Mess Lake. Currently there is no road access and any potential road access may depend on access routes to the more attractive Galore Creek area to the southwest. If access to Galore Creek is developed through the Forest Kerr area to Highway 37, access to Schaft Creek may be developed from the south along Mess Creek. If access to Galore Creek is developed through a system of roads and barging along the Stikine River, road access to Schaft Creek may follow Mess Creek north to a potential pass to the Yehiniko River and then down to the Stikine River.

Todagin Mountain Park is close to the Red Chris Mine on the Todagin Plateau. The most recent proposal has scaled down from a large-scale open pit mine to an underground mine with less surface disturbance. Originally, possible road access to the mine was proposed along the south side of Todagin Creek, adjacent to Todagin Mountain Park. However, with the scaled down version of the proposal, existing road access will likely be upgraded.

The Bowser Basin, which lies adjacent to the western boundary of Spatsizi Plateau Wilderness Park has relatively low potential for mineral development but has more potential for oil and gas development. Oil and gas pipelines will likely follow existing infrastructure (BC Rail grade and Klappan Road). Development of the Klappan coalfield (and the Groundhog coalfield to the south east) will likely depend on development of rail access.

In the eastern region of the Stikine Country Protected Areas, access to mineral deposits north of Stikine River Park (east of Highway 37) will likely link into the Jade Road to the north. Any potential mines between the Pitman and Chukachida rivers could be accessed either from the north from the Jade Road or from the south from the Omineca Road, and would require crossing either the Pitman or Chukachida rivers. Pitman River and Chukachida River protected areas allow for an access road through the protected areas, however the terrain along the Pitman River is unstable and it would be more difficult to develop a road through the Pitman River Protected Area. The access route to this area would depend on both the life expectancy of the mine and the location of the smelter. Potential access to the area south of Chukachida Protected Area and east of Spatsizi Plateau Wilderness Park will likely link to current infrastructure on the Omineca Road.

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APPENDIX 1. DETAILS AND CHRONOLOGY OF THE PROTECTED AREAS

Gladys Lake Ecological Reserve

Purpose: Protection of significant populations of Stone sheep, mountain goat, Osborn caribou and grizzly bear and their associated habitat with Spatsizi Plateau Wilderness Provincial Park.

Size - 48,560 ha

1973 - initial proposal for an ecological reserve at Gladys Lake

1975 - establishment of Gladys Lake Ecological Reserve

1981 - Boundary changes made to include some quality wildlife habitat and a mineral lick, and remove some area of lower habitat value near Coldfish Lake. The areas involved are either added to or removed from Spatsizi.

1983 - Management of Gladys Lake given over to B.C. Parks

Kinaskan Lake Park

Size - 1,800 ha

1972 - No staking reserve placed on future park area

1986 - Master plan developed for proposed park area

1987 - established as a class A Provincial Park

Mount Edziza Park

Size - 228,700 ha (without Klastline Plateau and Mess Creek Additions)

1972 - Order-in-Council passed to establish park and surrounding Mount Edziza Recreation Area

1973 - Legislation passed incorporating Mount Edziza Provincial Park into the *Park Act*

1989 - Order-in-Council changes Recreation Area boundary to present location, thus putting most of original the Recreation Area into Mount Edziza Provincial Park.

2000- -Cassiar Iskut-Stikine LRMP panel recommends that the Klastline Plateau and Mess Creek areas be added to the Park.

Mount Edziza Zone

Size - 4,000 ha

1972 - Order-in Council passed to establish Mount Edziza Recreation Area, the recreation area surrounds a core area that is in Mount Edziza Provincial Park

1986 - Order-in-Council passed making changes to legal description of Mount Edziza Recreation Area

1989 - Order-in-Council changes recreation boundary to present location and putting most of original recreation area into Mount Edziza Provincial Park. The new boundaries follow the boundaries of the mineral claims in the area.

2000 - Cassiar Iskut-Stikine LRMP panel recommends that the Recreation Area designation be lifted to allow mineral development in the area to proceed, with long-term plans for the area to become part of Mt. Edziza Provincial Park.

Spatsizi Plateau Wilderness Park
Size - 656,785 ha (without Metsantan Lake addition)

Purpose: The area will be maintained as a wilderness landscape in which natural communities are preserved intact and the progressions of the natural systems may proceed without alteration. Hunting and fishing, within sustained yield limits, is permissible. Recreational use of the area shall be limited to activities that do not detract from or disturb the wilderness experience south by visitors. These uses include: fishing, hunting, hiking, climbing, camping, horse travel and nature study.

1950s - Tommy Walker, the guide-outfitter based at Coldfish Lake, proposes that the area be set aside as an Ecological Reserve/Provincial park.

1975 - Spatsizi Plateau Wilderness Provincial Park established

1979 - B.C. Parks given a 99-year lease on the Coldfish Camp (D.L. 6686) by the National Second Century Fund of B.C. and purchases all buildings at Coldfish except the Tommy Walker Cabin.

1980 - Master Plan for Spatsizi is approved; the entire park is zoned as Wilderness

1981 - Minor boundary changes made to both Spatsizi and Gladys Lake

1987 - Changes to the boundary made including adding the Cullivan Creek fan and northern and eastern extensions, and deleting the Chukachida arm and eastern boundary deletions.

1990 - *Park Act* amended to bring Spatsizi under its protection, and the Coldfish lot (D.L. 6686) is deleted from the park.

1991 - The Tommy Walker Cabin is purchased by B.C. Parks from the Nature Trust (formerly National Second Century Fund of B.C).

2000 - Cassiar Iskut-Stikine LRMP panel recommends that the Metsantan Lake area be added to the Park.

Stikine River Park
Size - 217,000 ha (before boundary changes recommended by LRMP panel)

1987 - Stikine River Recreation Area Established

1991 - Interim Management Statement produced

2000 - Cassiar Iskut-Stikine LRMP panel recommends that areas west of the Tuya River be deleted from the Recreation Area, and that the Pitman and Chukachida Rivers areas be added. There were also many minor changes along the northern boundary of the Recreation Area.

Tatlatui Park
Size - 105,826 ha

1973 - Tatlatui Provincial Park established

1985 - Tatlatui Master Plan written but never approved

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APPENDIX 3. ECOSECTION AND BIOGEOCLIMATIC SUBZONE/VARIANT REPRESENTATION WITHIN EACH PROTECTED AREA UNIT IN THE STIKINE COUNTRY PROTECTED AREAS.

Biogeoclimatic Subzone/ Variant	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mess Creek	Klastline River	Mount Edziza Zone	Stikine River Park	Mt. Brock	Pitman River	Chukachida River	Metsantan	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park	Spatsizi Headwaters Park
Southern Boreal Plateau															
SBS			11569	8270		620									
ESSFwv			34339			2149									
BWBSdk1	1800	235	3709	7	3715		87432	8494	4771		2817	37801			
SWB		2392	30601		8781		104107	25821	1486		10198	305954	12202	48372	
AT		862	84805		1741	664	5155	7425	60		4266	302535	30230	53138	
Total	1800	3490	165023	8277	14237	3433	196694	41740	6317		17281	646290	42432	101510	
Stikine Plateau															
BWBSdk1			49727	4344			43852								
SWB			6216				7742								
AT							588								
Total			55943	4344			52182								
Tahltan Highland															
SBS															
ESSFwv			4804	10205											
BWBSdk1															
AT				829											
Total			4804	11034											
Northern Skeena Mountains															
ESSFwv			943												
AT			2386												
Total			3329												
Eastern Skeena Mountains															
ESSFmc														50	85
AT														1886	320
Total														1936	405
Cassiar Ranges															
BWBSdk1								3136	2150	986					
SWB								1953	7671	17420					
AT								2	143	995	170				
Total								5091	9964	19401	170				

APPENDIX 4. DISTRIBUTION OF WILDLIFE HABITAT CAPABILITY CLASSES WITHIN EACH PROTECTED AREA UNIT IN THE STIKINE COUNTRY PROTECTED AREAS.

Wildlife habitat rating	Kinaskan Lake Park	Todagin Mountain Park	Mount Edziza Park	Mess Creek	Klastline River	Mount Edziza Zone	Stikine River Park	Mt. Brock	Pitman River	Chukachida River	Metsantan	Spatsizi Plateau Wilderness Park	Gladys Lake Ecological Reserve	Tatlatui Park
Caribou														
1 Very high	0	257	12294	0	2545	0	95624	37693	1999	195	3324	244875	11015	44534
2 High	4	360	93303	12039	2595	1512	87807	1306	3539	6022	5660	242172	13169	
3 High-Moderate	1796	2078	72505	0	938	1267	13186	0	10702	10582	0	32417	2686	50349
4 Moderate	0	74	25743	5619	28	655	18163	0	0	560	7343	77503	11651	
5 Low-Moderate	0	720	10277	2849	8131	0	39189	2742	0	2041	1118	48140	2602	8195
6 Low	0	0	14977	3147	0	0	0	0	0	0	0	1529	1308	
Total	1800	3489	229099	23654	14237	3434	253969	41741	16240	19400	17445	646636	42431	103078
Stone's sheep														
1 Very high	0	257	11787	973	2063	0	4186	5887	0	0	2699	69336	1521	
2 High	0	0	14814	3290	0	0	2574	2102	0	1088	1897	116798	8550	
3 High-Moderate	0	2809	85135	3682	183	2421	39936	2900	793	12705	4193	290749	26881	
4 Moderate	0	80	55115	3172	6728	0	124941	3047	7643	3775	5900	90041	2064	
5 Low-Moderate	1642	166	53663	12108	5263	655	79949	27805	7789	700	2674	71840	3347	
6 Low	158	178	8583	429	0	358	2383	0	14	1133	80	7872	70	
Total	1800	3490	229097	23654	14237	3434	253969	41741	16239	19401	17443	646636	42433	
Mountain goats														
1 Very high	0	597	15290	1447	0	275	12926	1320	0	0	455	116435	6148	
2 High	0	257	19749	3290	0	0	10395	0	36	1088	2869	56396	2350	
3 High-Moderate	0	1492	78198	3682	450	2146	6544	1691	32	6001	0	182673	11307	
4 Moderate	0	80	54190	2698	7720	0	90805	7963	9758	10478	5465	115654	2064	
5 Low-Moderate	1642	887	34770	8269	0	655	115825	30766	6414	945	8497	169352	20493	
6 Low	158	178	26902	4269	6068	358	17474	0	0	888	158	6125	70	
Total	1800	3491	229099	23655	14238	3434	253969	41740	16240	19400	17444	646635	42432	
Moose														
1 Very high	0	49	4398	0	0	302	32831	2524	54	1272	2755	34420	486	0
2 High	1800	2	55036	1260	3211	1013	110590	6629	6636	1367	7343	180370	824	
3 High-Moderate	0	2742	65050	4330	8791	1237	102582	23959	9514	15673	4023	139807	5965	6054
4 Moderate	0	8	4066	12226	0	0	1226	2742	0	0	0	67945	14529	
5 Low-Moderate	0	3	20981	0	2133	0	6170	5887	36	1088	3324	157272	7669	97024
6 Low	0	685	79567	5838	103	882	570	0	0	0	0	66822	12960	
Total	1800	3489	229098	23654	14238	3434	253969	41741	16240	19400	17445	646636	42433	103078
Grizzly bears														
1 Very high	0	0	0	0	0	0	1	0	0	0	0	169	0	0
2 High	0	853	45898	1260	2669	302	38269	1884	54	9780	2674	66874	2006	
3 High-Moderate	1642	2544	71604	16391	3034	2167	197038	39267	15802	4472	705	436542	26397	103078
4 Moderate	0	74	71419	0	183	607	10156	0	383	0	4023	96226	12653	
5 Low-Moderate	0	0	22377	4768	8351	0	8505	569	0	5148	10041	43536	0	0
6 Low	158	20	17801	1236	0	358	0	0	0	0	0	3288	1377	
Total	1800	3491	229099	23655	14237	3434	253968	41740	16239	19400	17443	646635	42433	103078

APPENDIX 5. RECORDED OCCURRENCES OF BIRD SPECIES IN THE STIKINE COUNTRY PROTECTED AREAS.

(+ = recorded occurrence; U = unconfirmed report).

	Mt. Edziza Park and Zone	Stikine River Park	Spatsizi Park and Gladys Lake Ecological Reserve	Tatlatui Park
Common Loon	+		+	+
Yellow-billed Loon			+	
Arctic Loon	+		+	
Red-throated Loon			+	
Red-necked Grebe	+	+	+	
Horned Grebe	+	+	+	
Tundra Swan			+	
Trumpeter Swan		+		
Canada Goose	+	+	+	+
Mallard	+	+	+	+
Green-winged Teal	+	+	+	+
American widgeon	+	+	+	
Northern pintail	+	+	+	+
Northern Shoveler	+		+	
Blue-winged Teal			+	+
Redhead			+	
Ring-necked Duck		+	+	
Greater Scaup	+	+	+	+
Lesser Scaup	+		+	+
Black Scoter			+	
White-winged Scoter	+		+	+
Surf Scoter	+		+	+
Harlequin Duck			+	+
Oldsquaw	+			+
Barrow's Goldeneye		+	+	+
Common Goldeneye	+		+	+
Bufflehead	+	+	+	+
Common merganser	+	+	+	+
Red-breasted Merganser			+	
American Coot	+			
Semipalmated Plover	+		+	+
Killdeer			+	
Black-bellied Plover			+	
Lesser Golden Plover	+		+	
Whimbrel			+	
Greater Yellowlegs	+	+	U	+
Lesser Yellowlegs			+	+
Solitary Sandpiper	+		+	+
Spotted Sandpiper	+	+	+	+
Wandering Tattler	+		+	
Red-necked Phalarope	+		+	+
Long-billed Dowitcher	+		+	
Common Snipe	+		+	+
Sanderling			+	+
Semipalmated Sandpiper	+		+	+
Western Sandpiper		+	+	+
Least Sandpiper	+		+	+
Upland Sandpiper			+	
Long-tailed Jaegar			U	U
Bonaparte's Gull	+		+	+
Mew Gull	+		+	+

Herring Gull	+	+	+	+
California Gull			+	
Glaucous Gull			+	
Glaucous-winged Gull				+
Arctic Tern	+		+	+
Golden Eagle	+	+	+	+
Bald Eagle	+	+	+	+
Northern Harrier	+	+	+	+
Sharp-shinned Hawk	+	+	+	
Northern Goshawk	+		+	+
Red-tailed Hawk	+		+	
Rough-legged Hawk			+	
Osprey	+		+	+
American Kestrel	+	+	+	+
Merlin	+		+	+
Peregrine Falcon	+		U	
Gyrfalcon	+	+	+	+
Ruffed Grouse	+	+	+	+
Spruce Grouse	+	+	+	+
Blue Grouse			+	+
White-tailed Ptarmigan	+		+	
Rock Ptarmigan	+		+	+
Willow Ptarmigan	+		+	+
Sharp-tailed Grouse	+			
Mourning Dove			+	
Short-eared Owl			+	
Great Horned Owl	+	+	+	
Northern Pygmy-Owl			+	
Northern Hawk-Owl	+		+	
Boreal Owl		+		
Common Nighthawk	+	+	+	+
Rufous Hummingbird	+		+	
Belted Kingfisher	+		+	
Northern Flicker	+	+	+	+
Yellow-bellied Sapsucker		+	+	
Downy Woodpecker			+	
Hairy Woodpecker		+	+	
Black-backed Woodpecker	+	+	+	
Northern three-toed Woodpecker		+		
Olive-sided Flycatcher			+	+
Western Wood Pewee	+	+	+	
Eastern Phoebe			+	
Say's Phoebe	+	+	+	+
Hammond's Flycatcher			+	
Least Flycatcher			+	
Willow Flycatcher			+	
Alder Flycatcher		+		
Yellow-bellied Flycatcher			+	
Horned Lark	+	+	+	+
Tree Swallow		+	+	+
Violet-green Swallow		+	+	
Bank Swallow		+	+	
Northern Rough-winged Swallow		+	U	+
Cliff Swallow	+		+	+
Barn Swallow		+	+	+
Stellar's Jay			+	+
Gray Jay	+	+	+	+
Black-billed Magpie		+		

American Crow	+		+	+
Common Raven	+	+	+	+
Black-capped Chickadee	+	+	+	+
Mountain Chickadee	+		+	
Boreal Chickadee	+	+	+	+
Red-breasted Nuthatch	+	+	+	
Winter Wren	+	+	+	
Golden-crowned Kinglet		+	+	+
Ruby-crowned Kinglet	+	+	+	+
Mountain Bluebird		+	+	
Townsend's Solitaire	+	+	+	
Swainson's Thrush		+	+	+
Gray-cheeked Thrush		+	+	+
Hermit Thrush		+	+	+
Varied Thrush	+	+	+	
American Robin	+	+	+	+
Northern Wheatear	+		+	
Northern Shrike			+	
Water Pipit	+	+	+	+
American Dipper	+	+	+	+
Bohemian Waxwing	+	+	+	+
Cedar Waxwing	+		+	
European Starling			+	
Solitary Vireo			+	
Warbling Vireo		+	+	
Tennessee Warbler			+	
Orange-crowned Warbler		+	+	
Black-and white Warbler			+	+
Yellow-rumped Warbler	+	+	+	+
Townsend's Warbler		+	+	
Blackpoll Warbler		+	+	+
Yellow Warbler		+	+	+
MacGillivray's Warbler		+	+	
Wilson's Warbler	+	+	+	+
Northern Waterthrush			+	+
Common Yellowthroat	+	+	+	+
American Redstart		+	+	+
Le Conte's Sparrow			+	
Savannah Sparrow	+	+	+	+
Song Sparrow	+	+		+
American Tree Sparrow	+	+	+	+
Chipping Sparrow		+	+	+
Dark-eyed Junco	+	+	+	+
White-crowned Sparrow	+	+	+	+
Golden-crowned Sparrow	+	+	+	+
Fox Sparrow			+	
Lincoln's Sparrow		+	+	+
Smith's Longspur			+	+
Lapland Longspur			+	
Snow Bunting	+		+	+
Western Meadowlark			+	
Red-winged Blackbird	+		+	+
Rusty Blackbird	+	+	+	+
Brewer's Blackbird			+	
Brown-headed Cowbird	+	+	+	+
Common Grackle			+	
Western Tanager		+	+	
Pine Siskin		+	+	+

White-winged Crossbill	+		+	
Pine Grosbeak		+	+	+
Common Redpoll	+		U	
Hoary Redpoll			U	
Rosy Finch	+		+	
Purple Finch		+	+	

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APPENDIX 6. POTENTIAL SUCCESSIONAL PATHWAYS FOR VEGETATION TYPES IN THE BOREAL WHITE AND BLACK SPRUCE AND SPRUCE-WILLOW-BIRCH BIOGEOCLIMATIC ZONES.

Post-fire vegetation successional sequences described below are for "average" situations. Post-fire development depends on the type of pre-fire vegetation present and its physiological state, the season of fire occurrence, fire behaviour and intensity, the depth of burn (degree of removal of surficial organic matter), fire size, off-site vegetation, physical site characteristics, and post-fire environment conditions. The timing of fire occurrence is important with respect to the age of the stand and therefore whether or not the trees are cone-bearing and the season of occurrence and therefore the state of development of the cone crop and the effects of fire on the resultant seedbed.

Adapted from Parminter (1983)

	Sites	Soils			Fire	Successional stages				
		Texture	Drainage	Class						
Boreal White and Black Spruce Biogeoclimatic Zone										
Alluvial balsam poplar – white spruce	Very productive floodplains				Rare	Herbs Willow	Willow Alder	Willow-alder Balsam poplar (15-25 years)	Balsam poplar White spruce (80-100 years)	White spruce Herbs-shrubs (120-150 years)
Trembling aspen – white spruce (successional stage of climax white spruce)	Terraces and flanking plateaus on Stikine River	Medium to moderately-coarse	Moderately-well to well drained	Brunisols Luvisols	Periodic	Herbs-shrubs Tree seedlings or suckers	Young trees Herbs-shrubs (7 years)	Trembling aspen White spruce Herbs-shrubs (30 years)	White spruce Herbs-shrubs Moss (120 years)	
Trembling aspen – lodgepole pine – white spruce (successional stage of climax white spruce)	Common on morainal, glaciofluvial and lacustrine landforms	Medium to moderately-coarse	Moderately-well to well drained	Brunisols	Periodic	Herbs-shrubs Tree seedlings or suckers	Herbs-shrubs Young trees (15 years)	Trembling aspen Lodgepole pine White spruce Herbs-shrubs Moss (25 years)	Lodgepole pine White spruce Herbs Moss (120 years)	White spruce Moss (180+ years)
Lodgepole pine – white spruce (successional stage of climax white spruce)	Common on morainal, glaciofluvial and lacustrine landforms	Fine to coarse	Imperfectly to rapid or well drained	Brunisols	Periodic	Shrubs-herbs Tree seedlings	Shrubs – herbs Young trees (10 years)	Lodgepole pine White spruce Shrubs-herbs Moss (25 years)	Lodgepole pine White spruce Herbs Moss (120 years)	White spruce Moss (180+ years)
Trembling aspen – lodgepole pine – black spruce – white spruce (successional stage of climax white spruce)	Most common on galciofluvial and sometimes on morainal landforms	Medium to coarse	Moderately-well to well drained	Brunisols	Periodic	Herbs-shrubs Tree seedlings or suckers	Herbs Young trees Shrubs (10 years)	Trembling aspen Lodgepole pine Black spruce White spruce Herbs-moss (25 years)	Lodgepole pine Black spruce White spruce Moss-herbs (120 years)	White spruce (Black spruce) Moss-herbs (180+ years)
Black spruce (successional stage of climax black spruce)	Glaciofluvial landforms	Fine textured and poorly drained Or Coarse textured and moderately-well to well drained		Organics Brunisols Gleysols	Periodic	Shrubs-herbs Tree seedlings Sphagnum	Shrubs-herbs Young black spruce Sphagnum (7 years)	Mature black spruce Sphagnum Shrubs-herbs (50 years)		
						Herbs-shrubs Tree seedlings	Young trees Herbs-shrubs (7 years)	Black spruce Herbs-shrubs (35 years)	Mature black spruce Feathermoss (125 years)	

						Herbs-shrubs Tree seedlings	Young trees Herbs-shrubs (5 years)	Lodgepole pine Black spruce Herbs-shrubs (30 years)	Black spruce Moss (200+ years)	
Lodgepole pine – white spruce – subalpine fir (successional stage of climax subalpine fir and white spruce)	Most common on morainal and glaciofluvial landforms	Medium to moderately-coarse	Moderately-well to well drained	Luvisols Brunisols Gleysols	Periodic	Moss-herbs Tree seedlings Shrubs	Moss-herbs Young trees Shrubs (10 years)	Lodgepole pine White spruce Subalpine fir Herbs-shrubs (25 years)	White spruce Subalpine fir Moss Shrubs-herbs (180 years)	Subalpine fir White spruce Moss Shrubs-herbs (250+ years)
Lodgepole pine – subalpine fir (successional stage of climax subalpine fir)	Most common on glaciofluvial, morainal and fluvial landforms	Moderate to moderately-coarse	Well to rapidly drained	Brunisols	Periodic	Tree seedlings Shrubs-herbs Mosses	Young trees Mosses Shrubs-herbs (10 years)	Lodgepole pine Subalpine fir Mosses Shrubs-herbs (25 years)	Subalpine fir Moss Herbs-shrubs (200+ years)	
Spruce – Willow – Birch Biogeoclimatic Zone										
White spruce – subalpine fir	Morainal or glaciofluvial landforms	Fine to moderately-coarse	Imperfectly to well drained	Brunisols Gleysols	Periodic	Shrubs-herbs Tree seedlings	Shrubs-herbs Young trees (35 years)	White spruce Subalpine fir Moss Herbs-shrubs (60 years)	White spruce Subalpine fir Moss Herbs-shrubs (250+ years)	Subalpine fir White spruce Moss Herbs-shrubs (400+ years)
Trembling aspen – lodgepole pine – white spruce – subalpine fir (successional stage of climax subalpine fir and white spruce)	Morainal or glaciofluvial materials	Fine to moderately-coarse	Moderately well to well drained	Brunisols	Periodic	Shrubs-herbs Tree seedlings or suckers	Shrubs-herbs Young trees (35 years)	Trembling aspen Lodgepole pine White spruce Subalpine fir Shrubs-herbs (60 years)	White spruce Subalpine fir Moss Herbs-shrubs (250+ years)	Subalpine fir White spruce Moss Herbs-shrubs (400+ years)
Subalpine fir	Glacial origin morainal veneers	Moderate		Regosols Brunisols	Periodic	Shrubs-herbs Tree seedlings	Shrubs-herbs Young subalpine fir (35 years)	Subalpine fir Herbs-shrubs Moss (60 years)	Subalpine fir Moss Herbs-shrubs (150 years)	
White spruce – feathermoss	Steep north facing slopes	Permafrost under thick moss layer Very cold soils			Rare					

APPENDIX 7. DETAILS OF FIRES THAT OCCURRED IN THE STIKINE COUNTRY PROTECTED AREAS, 1946-1994.

Year	Protected Area	Area	Cause	Fire No.	Ignition date	Date fire detected	Detected fire size (ha)	Date first attacked	Fire size at attack (ha)	Final fire size (ha)
1999	Klastline	Southwest corner	Lightning	0080	08/05	08/05	0.8	No	-	1.0
1998	Todagin Mountain	Southwest corner	Campfire escape	0018	04/29	05/04	200.0	No	-	384.0
1998	Mt. Edziza	Buckley Lake	Lightning	0087	07/03	07/06	3.0	07/07	13.0	26.5
1995	Kinaskan Lake	Natadesleen Lake	Campfire escape	0092	06/29	06/30	0.1	06/30	0.1	0.1
1994	Kinaskan Lake	West of park	Industrial	0001	04/15	05/01	1.0	05/02	1.0	1.0
1993	Kinaskan Lake	West of park	Lightning	0001	06/04	06/04	0.1	06/04	0.1	0.1
1993	Mess Creek	South of Mess Lake	Lightning	0005	07/10	07/14	0.5	07/14	2.0	2.0
1992	Stikine River (east)	Cullivan Creek	Lightning	0020	07/01	07/04	5.0	07/05	60.0	5178.0
1992	Kinaskan Lake	West of park	Industrial (debris burn)	0028	08/20	08/20	0.2	08/20	2.0	5.0
1992	Stikine River	Highway 37	Campfire escape	0033	09/15	09/15	0.1	09/15	0.1	0.1
1991	Mt. Edziza	South of Klastline River	Escaped prescribed fire	0009	05/03	05/03	3.0	05/04	5.0	5.0
1991	Mt. Edziza	Elwyn Creek	Lightning	0017	06/22	06/22	0.1	06/22	0.1	0.1
1991	Stikine River (east)	North of Pitman River	Lightning	0018	06/22	06/22	0.1	06/22	0.1	0.2
1991	Stikine River (east)	Cullivan Creek	Lightning	0038	08/09	08/16	0.2	08/16	0.4	0.6
1991	Tatlatui	Southwest area	Lightning	0020	07/23	07/25	0.1	07/26	0.5	0.5
1990	Spatsizi	Chili Creek	Lightning	0021	07/23	07/23	0.1	07/23	0.2	0.2
1990	Tatlatui	Southwest area	Lightning	0061	08/12	08/13	No data	08/15	No data	No data
1990	Tatlatui	Southwest area	Lightning	0064	08/12	08/13	1.5	No	-	1.5
1990	Tatlatui	Southwest area	Lightning	0082	08/12	08/13	No data	No	No data	No data
1989	Stikine River (east)	Near McBride River	Escaped prescribed fire	0001	05/03	05/03	1.0	05/03	60.0	315.0
1989	Stikine River	Highway 37	Industrial (debris burn)	0002	04/25	05/06	No data	05/06	No data	No data
1989	Mt. Edziza	South of Klastline River	Campfire escape	0007	06/24	06/24	1.7	06/24	5.5	15.0
1989	Mt. Edziza	Mowchilla Lake	Lightning	0012	06/29	07/01	No data	07/01	No data	No data
1989	Kinaskan Lake		Lightning	0013	07/01	07/01	0.1	07/01	0.1	0.1
1989	Stikine River (west)	South of Grand Canyon	Lightning	0031	07/10	07/11	0.1	07/11	0.3	0.3
1989	Spatsizi	Spatsizi River	Cigarette	0037	07/12	07/14	No data	07/14	No data	No data
1988	Stikine River	Highway 37	Campfire escape	0001	04/12	04/18	No data	04/18	No data	No data
1988	Kinaskan Lake		Campfire escape	0016	09/22	09/23	No data	09/24	No data	No data
1987	Stikine River (west)	Near Tanzilla River	Campfire escape	0009	07/05	07/06	No data	-	No data	No data
1986	Stikine River (east)	Near Chukachida River	Arson	0009	06/13	06/13	0.2	06/13	30.0	46.2
1986	Spatsizi	Hyland Post	Arson	0008	06/04	06/04	30.0	06/05	55.0	60.0
1986	Spatsizi	Cullivan Creek	Arson	0006	06/03	06/04	155.0	06/04	155.0	163.0
1982	Spatsizi	Klappan River	Lightning	0030	06/30	06/30	4.0	06/30	40.0	100.0
1982	Mt. Edziza	East of park (Willow River)	Lightning	0023	06/25	06/25	0.2	06/29	1500.0	7947.0
1981	Spatsizi	Buckinghorse Creek	Campfire escape	0016	08/11	08/11	0.1	08/11	22.0	3968.0
1978	Stikine River (west)	North of river	Campfire escape	0017	07/16	07/16	1.0	07/16	30.0	60.0
1971	Stikine River (east)	North of Pitman River	Lightning	0099	06/19	06/19	12.1	No	-	28.3
1971	Stikine River (east)	North of Pitman River	Lightning	0100	06/19	06/19	202.3	06/20	445.1	513.9
1971	Chukachida	Chukachida River	Lightning	0180	07/26	-	12.1	-	12.1	16369.5
1969	Stikine River (west)	South of river	Lightning	0131	06/14	-	40.4	06/14	202.3	10038.6
1969	Spatsizi	Hyland Post	Industrial (debris burn)	0120	05/01	06/11	60.7	06/13	323.7	1129.0
1967	Kinaskan Lake		Campfire escape	0185	08/16	08/16	0.1	08/16	80.9	563.0
1958	Stikine River (west)		Lightning	0045	06/04		8.0	No	-	12431.9
1958	Stikine River (west)	Tanzilla River	Lightning	0120	07/05		242.8	07/05	-	20222.5
1958	Mt. Edziza	East of park	Lightning	0171	07/05		20.2	No	-	580.0
1952	Mt. Edziza	Buckley Lake	Human (hangover)	0040	04/01		4046.8	-	4856.2	9761.0
1951	Stikine River (west)	Tanzilla River	Campfire escape	0038	05/15	06/04	16.1	06/07	16.1	12950.0
1951	Stikine River (west)	Telegraph to Tanzilla River	Campfire escape	0037	05/20	05/21	1.6	-	12140.5	40145.0

1946	Stikine River (west)	East of Eight Mile Creek	Human	0028	No data	No data	No data	No data	No data	5.1-50

APPENDIX 8. TABLE 1. GUIDE OUTFITTER QUOTAS FOR EACH PARK UNIT IN THE STIKINE COUNTRY PROTECTED AREAS.

				Sheep			Mountain Goat		Caribou		Moose		Grizzly bear		
				Territory		Park	Territory	Park	Territory	Park	Territory	Park	Territory		Park
	Territory size (ha)	% of park in territory	% of territory in park	Max. 3 year	Max. 1 year	Max. 1 year	Max. 1 year	Max. 1 year	Max. 1 year	Max. 1 year	Max. 1 year	Max. 1 year	Max. 3 years	Max. 1 year	Max. 1 year
Mt. Edziza Park and zone (232 533 ha)															
Gutfrucht	724 658	31.2	10.0	18	7	0	+[1]	0	Closed	Closed	+	+	4	2	+
Creyke	639 330	68.8	25.0	39	16	1	+	4	+	Closed	+	+	6	3	1
Mess Creek (23 655 ha)															
Gutfrucht	724 658	100.0	3.3	18	7	+	+	+	Closed	Closed	+	+	4	2	+
Klastline (14 237 ha)															
Creyke	639 330	100.0	2.2	39	16	+	+	+	+	Closed	+	+	6	3	+
Todagin Mountain Park (3 490 ha)															
Creyke	639 330	100.0	0.6	39	16	+	+	Closed	+	+	+	+	6	3	+
Kinaskan Lake Park (1 800 ha)															
Creyke	639 330	100.00	0.3	39	16	Closed	+	Closed	Closed	Closed	+	Closed	6	3	Closed
Stikine River Park (West) (48 460 ha)															
Creyke	639 330	48.2	3.7	39	16	+	+	+	+	+	+	+	6	3	+
MacLean	751 921	51.8	3.3	12	5	+	+	1	+	+	+	+	2	2	0
Stikine River Park (East) (205 471 ha)															
Creyke	639 330	5.9	1.9	39	16	+	+	+	+	+	+	+	6	3	+
MacLean	751 921	3.6	1.0	12	5	+	+	1	+	+	+	+	2	2	0
Egeler	488 587	47.7	15.3	30	12[2]	2	+	2	+	2	+	5	6	3	1
Geraci	593 446	22.4	7.8	36	14	+	+	+	+	+	+	5	4	2	1
Collingwood	769 780	17.6	4.7	-	8[2,3]	8	13	13	20	20	30	30	5	2	1
Nyuli	455 184	2.5	1.1	-	3[2]	+	+	+	17	+	11[4]	+	6	3	+
Pitman River Protected Area (16 240 ha)															
Geraci	593 446	100.0	2.7	36	14	+	+	+	+	+	+	5	4	1	+
Chukachida River Protected Area (19 400 ha)															
Nyuli	455 184	100.0	4.3	-	3[2]	+	+	+	17	+	11[4]	+	6	3	+
Spatsizi Plateau Wilderness Park (646 636 ha)[5]															
Collingwood	769 780	98.7	84.0	-	8[2]	8	13	13	20	20	30	30	5	2	1
Nyuli	455 184	0.7	1.1	-	3[2]	+	+	+	17	+	11[4]	+	6	3	+
Fleming	395 498	0.2	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Collett	242 404	0.3	0.9	-	3	+	+	+	+	+	+	+	4	2	+
Mt. Brock (41 741 ha)															
Collingwood	769 780	100.0	5.4	-	8[2]	8	13	13	20	20	30	30	5	2	1
Gladys Lake Ecological Reserve (42 433 ha)															
Collingwood	769 780	100.0	5.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Metsantan (17 444 ha)															
Nyuli	455 184	100.0	3.8	-	3[2]	+	+	+	17	+	11[4]	+	6	3	+
Tatlatui Wilderness Park (103 078 ha)															
Fleming	395 498	100.0	26.1	-	3[2]	Closed	8	4[2]	12	+	11[4]	+	6	3	+
Spatsizi Headwaters Park (405 ha)															
Collett	242 404	100.0	0.2	-	3	+	+	+	+	+	+	+	4	2	+

[1] "+" indicates no specific quota but guide must comply with general hunting regulations

[2] Includes overrun allowance of 1

[3] Quotas for Collingwoods apply to all of 6-20A encompassing Spatsizi Park and Stikine River Park (including Mt. Brock)

[4] For Region 6 portion of territory only; Region 7 quota = 11

[5] Includes 377 ha in Geraci's territory; this area is likely a GIS mapping error

Appendix 8. Table 2. Protected area portion of guide-outfitter territories.

	Area of park in territory (ha)	% of territory in park
Gutfrucht (724 658 ha)		
Mt. Edziza Park and Zone	72 363	10.0
Mess Creek	23 655	3.3
Total	96 018	13.3
Creyke (639 330 ha)		
Mt. Edziza Park and Zone	156 668	25.0
Klastline	14 237	2.2
Todagin Mountain Park	3 490	0.6
Kinaskan Lake Park	1 800	0.3
Stikine River Park (West)	23 343	3.7
Stikine River Park (East)	12 180	1.9
Total	211 718	33.7
MacLean (751 921 ha)		
Stikine River Park (West)	25 117	3.3
Stikine River Park (East)	7 364	1.0
Total	32 481	4.3
Egeler (488 587 ha)		
Stikine River Park (East)	98 000	15.3
Total	98 000	15.3
Geraci (593 446 ha)		
Stikine River Park (East)	144 046	7.8
Pitman River Protected Area	16 240	2.7
Total	160 286	10.5
Collingwood (769 780 ha)		
Stikine River Park (East)	36 231	4.7
Spatsizi Plateau Wilderness Park	638 322	84.0
Mt. Brock	41 741	5.4
Gladys Lake Ecological Reserve	42 433	5.5
Total	758 727	99.6
Nyuli (455 184 ha)		
Stikine River Park (East)	5 107	1.1
Chukachida River Protected Area	19 400	4.3
Spatsizi Plateau Wilderness Park	4 797	1.1
Metsantan	17 444	3.8
Total	46 748	10.3
Fleming (395 498 ha)		
Spatsizi Plateau Wilderness Park	965	0.2
Tatlatui Wilderness Park	103 078	26.1
Total	104 043	26.3
Collett (242 404 ha)		
Spatsizi Plateau Wilderness Park	2 175	0.9
Spatsizi Headwaters Park	405	0.2
Total	2580	1.1

APPENDIX 9. TRAPLINE AREAS FOR THE STIKINE COUNTRY PROTECTED AREAS.

Trapline number	Area (ha.)	Area in protected areas	% of Trapline in protected areas
619T001	55,734	32,085	57.6
619T002	83,699	22,723	27.2
619T004	18,948	12,237	64.6
619T006	32,024	22,885	71.5
620T001	2,324,370	1,104,003	47.5
621T006	141,815	35,562	25.1
621T007	9,496	9,009	94.9
621T008	83,035	16,241	19.6
621T009	28,603	24,638	86.1
621T010	10,215	9,925	97.2
621T019	73,991	63,768	86.2
621T020	63,330	33,043	52.2
622T010	79,968	22,054	27.6
622T011	85,793	2,194	2.6
739T006	248,219	16,440	6.6

APPENDIX 10. USE STATISTICS FOR THE STIKINE COUNTRY PROTECTED AREAS

Table 1: Seasonal Usage of Kinaskan Lake Park campground and day-use area						
Campground						
Year	**May**	**June**	**July**	**August**	**September**	**October**
1996	85	668	1099	1066	352	
1997	74	557	1036	1010	255	
1998	155	632	1880	1094	324	
1999	84	517	1601	875	331	
Day-use Area				681		
1996	265	724	1002	438	342	
1997	198	554	732	405	277	
1998	43	908	1440	518	321	
1999	147	1580	2502		475	
Seasonal use of Spatsizi Plateau Wilderness Park						
1996		59	297	344	67	20
1997		58	196	179	76	24
1998		27	225	243	84	27
1999		76	241	210	96	30

Table 2: Yearly use of the Stikine Country Protected Areas											
Year	**Kinaskan campground**	**Kinaskan Day-use**	**Mt. Edziza**	**Stikine River[1]**	**Coldfish Camp**	**Spatsizi River**	**Didene Portage**	**Spatsizi Traiheads**	**Tuaton/ Laslui**	**Spatsizi Total**	**Tatlatui**
1986	2885	3100			137	76				324	
1987	2775	3626									
1988	2020	3582									
1989	2311	2500									
1990	2540	3538									
1991	2559	3824									162[2]
1992	2874	4516			272					272	162[2]
1993	3158	5367	116		223	288				511	162[2]
1994	3306	3775	160	2103	290	31	67	109	109	606	270
1995	3607	4187	199	1819	270	42	141	50	113	616	
1996	3270	3014	118	1253	224	351	50	121	41	787	
1997	2932	2199	110	931	143	173	43	66	108	533	
1998	3298	2166	148	1303	122	326	62	39	57	606	236
1999	2807	3495	99	1954	136	138	64	110	205	653	132

1: Recorded at the boat launch by Hwy #37

2: Average of 1991 to 1993

APPENDIX 11. CASSIAR ISKUT-STIKINE LRMP RECOMMENDATIONS FOR OBJECTIVES AND STRATEGIES FOR MANAGEMENT OF NEW PROTECTED AREAS IN THE STIKINE COUNTRY PARKS PROTECTED AREAS.

	Items to be addressed in the protected area management plan	
Protected Area	**Values to be protected**	**Management Direction**
Klastline	To increase the viability of the predator prey ecosystem associated with adjacent Mount Edziza Park and the protected area along the Stikine River. Specific features include: • One of the most northern winter ranges for mule deer • South facing grassy aspen slopes • Representative ecosystems of the spruce-willow birch zone • High habitat values for mountain goat • Recreational and cultural heritage values associated with Klastline Trail	• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas • Permit non-motorized use only on Klastline trail from spring thaw to fall freeze-up. • Snowmobile use is allowed along the Klastline Trail • Maintain opportunities for construction of cabins, as required, to support recreational use along the Klastline Trail.
Mess Creek	To protect high value low elevation habitat and ecosystems adjacent to Mount Edziza Park and large mineral springs with extensive tufa deposits and associated wetlands, including: • Rare plant species associated with tufa deposits and wetlands • Mineral licks • High value wildlife habitat for goat, moose, grizzly along valley, including a major movement corridor and key winter range	• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas • Provide designated trails to minimize impacts to calcite deposits. • Accommodate existing trapping use consistent with protected area values.
Spatsizi Headwaters	To protect the headwaters of the Spatsizi River, including • Upper elevational glacial lakes • Alpine meadows • Recreational values for hiking and wildlife viewing • Tahltan Traditional use	• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas • Maintain opportunities for cultural uses of the area, such as food harvesting e.g., marmot.
Stikine Grand Canyon	To recognize and protect the Grand Canyon of the Stikine as an exceptional natural landform, including • Uncommon dry steppe ecosystems • A unique population of canyon mountain goats.	• Allow a range of front-country to backcountry viewing opportunities along the Grand Canyon of the Stikine. • Locate trails to viewing areas to minimize potential for disturbance of mountain goats. • Allow opportunities for frontcountry tourism development in the vicinity of the Stikine bridge on Highway 37. • The protected area will exclude the right-of-way to either side of existing highways (Highway 37 and the Telegraph Creek Road) and gravel sources required for maintenance

	Items to be addressed in the protected area management plan	
Protected Area	**Values to be protected**	**Management Direction**
		and upgrading activities. • Identify existing private commercial uses that may be untenured and seek to accommodate those uses consistent with Protected Areas values and the protected area management plan e.g. the existing trail riding operation. • Continue to allow existing access to private or leased land • Existing grazing use will be allowed to continue • Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas
Todagin Mountain	To protect critical winter range and lambing area for Stone's sheep	• Maintain the existing bow-hunting only provision • Respect the existing license for domestic and agricultural water use on Ibsen Creek. • Address use of helicopters particularly during sensitive periods (kidding and lambing season) • Consider a wildlife viewing area at the western end of the protected area, overlooking Highway 37. Details regarding management within a wildlife viewing area will be developed as part of the wildlife management plan for Todagin Plateau.
Upper Stikine Spatsizi Extension	To protect the Spatsizi predator-prey system and the upper reaches of the Stikine River, including: • Important low elevation habitat in Stikine River valley and tributary valleys • Highly significant caribou winter habitat at Mount Brock, in forested areas north of Stikine River and year-round caribou habitat, including major rutting areas at Mt Edozadelly • High value moose habitat and calving grounds, particularly at Pitman River, Chukachida River and Geese Creek. • High value sheep habitat, particularly the enhancement area at Beggarly Mountain • Key wildlife movement corridors along Pitman and Chukachida Rivers, providing connectivity to high value habitat in the Mackenzie LRMP • High cultural heritage values for the Tahltan, including very high values at Caribou Hide and Metsantan Village	• Consider important archaeological sites, cultural / heritage values, and activities of First Nations in Protected Areas planning. • Allow opportunities for construction of backcountry cabins as required to support recreational use, compatible with protected area values. • Continue to allow motorized boat use for recreation and hunting along the Stikine, Chukachida, and Pitman Rivers, consistent with acceptable types and levels of use • Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas **For Pitman River:** • In the event that a request is made for access and where reasonable review determines that no practicable alternative exists outside of the protected area, then a decision regarding the most appropriate access will be made by Government authorities. The decision will be made in full consideration of the functional integrity of the protected area and the need for access for mineral activities , in accordance with applicable review and

	Items to be addressed in the protected area management plan	
Protected Area	**Values to be protected**	**Management Direction**
	e.g., grave sites, archaeological sites, and remnant buildings. Potential use for summer elder trips, youth camps and other traditional activities • Internationally recognized river recreation • Other wilderness recreation opportunities (hunting, fishing, backpacking)	approval processes. • If a road is required, locate it to minimize environmental and wildlife impacts, including providing access controls if required. Permanently deactivate the road upon completion of operations. • Do not create a circle route as a result of providing access across this protected area. • The Pitman River has highly unstable terrain. If a road is required, recommend full bonding for road construction in recognition of the higher environmental risk. • In keeping with the LRMP Economic Strategy, it is preferred that any mining roads north of the Pitman connect with northern routes (e.g., the Jade Road), to allow economic benefits to accrue to the local area. **For Chukachida River and Geese Creek:** • In the event that a request is made for access and where reasonable review determines that no practicable alternative exists outside of the protected area, then a decision regarding the most appropriate access will be made by Government authorities. The decision will be made in full consideration of the functional integrity of the protected area and the need for access for mineral activities, in accordance with applicable review and approval processes. • If a road is required, locate it to minimize environmental and wildlife impacts, including providing access controls if required. Permanently deactivate the road upon completion of operations. • Do not create a circle route as a result of providing access across this protected area. • The Chukachida area includes one mineral tenure that will be addressed as per Section 2.5.1, Strategy 3.1: GMD for Protected Areas. **For Metsantan:** • Existing mineral tenure areas (Map 15) will be excluded from the Metsantan Protected Area and will be available for staking, mineral exploration, and mine development for a period of 20 years from the date of LRMP approval. At the end of 20 years, if there are no mineral tenures in place, these areas will be added to the Protected Area. If there are tenures in place 20 years from plan approval, the tenure areas will be added to

	Items to be addressed in the protected area management plan	
Protected Area	**Values to be protected**	**Management Direction**
		the Protected Area once tenures lapse. • To the extent compatible with mine development, maintain the long term ecological integrity and cultural values of the excluded Metsantan tenure areas in consideration of their eventual Protected Area status. • Manage access into mineral tenures adjacent to the protected area to minimize disturbance of seasonal migration of caribou.

Cassiar Iskut-Stikine LRMP - General Management Direction for Protected Areas

Goals/ Desired Future State

☐ A protected area system for the LRMP area that has viable, representative examples of the natural diversity of the LRMP area including terrestrial and aquatic ecosystems, characteristic habitats, hydrology, landforms, and characteristic backcountry recreational and cultural heritage values of each ecosection.

☐ A Protected Areas system for the LRMP area that has special natural, cultural heritage and recreational features including rare and endangered species and critical habitats, outstanding or unique botanical, zoological, geological, and paleontological features, outstanding or fragile cultural heritage features, and outstanding outdoor recreational features such as trails

☐ Protected Areas in the Cassiar Iskut-Stikine that are a major contributor to the local economy and local employment

General Management Direction for Protected Areas	
Objectives	**Strategies**
1. Ensure the maintenance of the conservation, recreation and cultural heritage values within Protected Areas. This includes developing comprehensive park management plans in a timely manner.	1.1 Develop comprehensive management plans for each approved protected area in a timely manner and with respect to the priority resource values at risk. 1.2 Develop management plans with the benefit of extensive public, First Nations and inter-agency participation and incorporate direction and consider advice from the approved LRMP. 1.3 Develop plans that, among other things, define park-specific management objectives, acceptable uses, acceptable levels of use, zoning, and other strategies to minimize conflicts and help ensure the integrity of important protected area values. 1.4 Include consultation with tourism industry representatives during management planning processes in order to examine potential commercial opportunities within provincial parks, subject to the primary goal of protecting conservation, recreation and cultural heritage values within Protected Areas. 1.5 Assess commercial opportunities with regard to their compatibility with protected area management plans and, where appropriate, their contribution to the local economy and local employment. Generally, physical commercial infrastructure (e.g., roads, lodgings, staging areas, etc.) will be directed outside of protected area boundaries in order to minimize impacts within Protected Areas. 1.6 Pending the development of comprehensive management plans for each protected area, develop management direction statements in a timely manner to direct management and operations. Management direction statements will involve consultation with stakeholders, LRMP participants and First Nations.

General Management Direction for Protected Areas

Objectives	Strategies
2. Recognize and accommodate traditional uses and aboriginal rights of First Nations in Protected Areas.	2.1 Develop government-to-government relationships between BC Parks and First Nations concerning management of Protected Areas.
	2.2 Establish communication protocols between BC Parks and First Nations with respect to proposed and existing Protected Areas.
3. Recognize the legal rights of existing tenure holders and landowners within newly established parks and deal fairly with those interests	3.1 Existing mineral and timber tenures and other tenures/encumbrances associated with commodity extraction will be discontinued within new Protected Areas. The terms of discontinuance will be negotiated in a timely manner with owners of existing tenure interests, in accordance with provincial policy respecting resource rights compensation. Existing non-tenured uses (commercial and private) may be continued subject to compatibility with management objectives and values for individual Protected Areas.
	3.2 Existing tenures within new Protected Areas for utility rights-of-way, communication sites, grazing, commercial backcountry recreation, guide-outfitting, trapping, water works and use, and other tenures not based in commodity extraction, will be allowed to continue, in accordance with the existing management conditions attached to those tenures. In the future, the management conditions attached to those tenures may be amended to comply with the requirements of BC Parks policy and management plans developed for individual Protected Areas.
	3.3 Consistent with tenure document provisions and current assignments/transfer procedures, holders of existing tenures of the type identified in strategy 3.2 above may assign/transfer their tenures to different parties. However, where existing tenures lapse or are voluntarily surrendered by a tenure holder, the province is under no obligation to re-issue the tenure rights.
	3.4 Further to 3.2 and 3.3 above, trapping will continue as an authorized, use in Protected Areas. Extinguishment of tenure will occur on a voluntary basis only, through purchase by BC Parks at fair market value.
	3.5 Further to 3.2 and 3.3 above, existing range tenures that are within Protected Areas will continue to be administered and managed in accordance with the *Range Act*, as per the transitional provisions for new parks in the *Park Amendment Act*, 1997.
	3.6 Alterations to conditions of tenure will be based on sound resource management principles with respect to the activity in question (e.g., sustainability of trapping, guiding, grazing activities) and/or avoidance of impacts to the resource values for which the protected area was established (e.g., caribou, biodiversity, recreation etc.). Alterations will be made in consultation with the tenure holder. Where alterations to conditions of tenure act, in practical terms, to extinguish tenure, it is recommended that the tenure holder be fairly compensated.
	3.7 Existing owners of private land and First Nations will continue to exercise their rights. Where private land is surrounded by a new park and the only access is through the protected area, rights to existing access to those properties will continue.
4. Maintain ecosystem representation and integrity, and ensure protection of key resource values and natural features.	4.1 Within Protected Areas, management emphasis will be placed on maintaining the ecosystems, resource values and natural features for which Protected Areas were established.
	4.2 Management interventions will not significantly alter natural ecological, hydrological and geomorphic processes except for express management purposes as defined by a protected area management plan.
	4.3 Where existing grazing tenures occur, sensitive plant communities (i.e., steep south facing slopes) will be maintained in conjunction with Ministry of Forests through application of range management guidelines.
	4.4 Assemble resource inventories for new park areas as budgets permit
	4.5 Vegetation management may be undertaken, where appropriate, (e.g.,

General Management Direction for Protected Areas	
Objectives	**Strategies**
	burning to enhance wildlife forage). 4.6 Monitor visitor use and manage so that levels of use do not exceed carrying capacity (i.e., overuse is avoided) 4.7 Encourage use of low impact outdoor techniques in Protected Areas.
5. Protect key species and their habitats.	5.1 Permit opportunities to establish benchmarks for scientific study and management of rare, endangered and at risk species. 5.2 Within Protected Areas, manage rare, endangered and at risk species and their habitats as priority resource values. 5.3 Maintain functional habitat, cover and site-specific features for fish and wildlife species. 5.4 Encourage human use patterns that minimize impact on the environment (e.g trails, boardwalks, facilities)
6. Coordinate strategic planning and management between Protected Areas and the adjacent landbase	6.1 Manage natural occurrences (e.g., fires, insects, and forest disease) within park boundaries relative to their impact on the ecosystem within the boundaries of the protected area, and on the broader ecosystem values of which the protected area is a part. 6.2 Coordinate planning of resources and resource development activities on land adjacent to and within Protected Areas (e.g., mountain pine beetle management, management for wildlife, recreation, visual quality and fire, and access management adjacent to sensitive features within a park).
7. Provide a range of recreation opportunities from primitive to intensive recreation use, compatible with the values being protected.	7.1 Plan for a range of recreation experiences compatible with the general wilderness quality of the region, in order to compliment recreation elsewhere in the plan area. 7.2 Where appropriate, close or reclaim existing access and trails within Protected Areas to support primitive recreation experiences. Similarly development of trails and facilities and recreational access to some areas may be managed or limited to maintain the quality of the recreational experience and protected area values. 7.3 Limit development of trails and facilities in wilderness Protected Areas to maintain primitive recreation values 7.4 Levels of recreational use and associated impacts will be monitored and management applied, where necessary, to maintain the backcountry qualities of an area. 7.5 Provide recreational opportunities accessible to local residents, subject to the carrying capacity of individual Protected Areas and the values being protected 7.6 Develop and maintain facilities and trails to support tourism and local resident use in frontcountry Protected Areas zoned for intensive recreation consistent with values being protected
8. Plan and manage Protected Areas in a manner that protects cultural heritage values	8.1 Identify and protect archaeological sites, special sites, traditional use, and heritage trails (First Nations and pioneer)
9. Recognize hunting as an acceptable use within Protected Areas.	9.1 Continue to provide hunting opportunities for First Nations, local and resident hunters, and guide outfitters in Protected Areas, except where there are the following overriding considerations: • Public safety; and • Conservation priorities 9.2 Develop hunting regulations in cooperation with B.C. Environment, Fish and Wildlife Branch. Detailed guidelines for hunting will be developed in consultation with guide outfitters and local and resident hunter groups

General Management Direction for Protected Areas	
Objectives	**Strategies**
	9.3 Base any future changes to allocable harvests on up-to-date professional and scientific information on the status of wildlife populations. 9.4 Address allocation of harvest among First Nations, local and resident hunters, and guide outfitters, when changing hunting regulations within new Protected Areas.
10. Where opportunities are identified in a protected area management plan and are consistent with the objectives for which the protected area is managed, facilitate increased local business development and employment associated with Protected Areas	10.1 Include local employment and business creation as criteria for awarding commercial park use permits 10.2 Work with local tourism operators and communities to ensure that information on recreation opportunities in Protected Areas is available and accurately described consistent with values in Protected Areas. 10.3 Provide information to local communities on potential economic and employment opportunities associated with Protected Areas.

APPENDIX 12. CASSIAR ISKUT-STIKINE LRMP RECOMMENDED MANAGEMENT DIRECTION FOR THE MT. EDZIZA ZONE.

This area was formerly the Mount Edziza Recreation Area. The area is surrounded on three sides by Mount Edziza Provincial Park and includes the Spectrum property, a developed gold-copper prospect. The intent of this zone is to promote a cooperative approach to managing mineral exploration, development and reclamation adjacent to a park. While mineral development is currently allowed in this zone, the intent in the long term is for the area to become part of Mount Edziza Provincial Park. To this end, any development in this zone should be undertaken in consideration of its eventual park status.

Objective: To cooperatively manage mineral exploration, development and reclamation while:

⇒ maintaining the ecological integrity and backcountry character of the adjacent Mount Edziza Provincial Park; and,

⇒ to the extent compatible with mine development, maintaining the long term ecological integrity and backcountry character of the Mount Edziza zone.

Commercial forest harvesting will continue to not be allowed within this zone.

Management Category	Strategies
Biodiversity	• Avoid disturbance of red- and blue-listed plants and plant communities when locating roads and mine infrastructure.
Wildlife	• Avoid disruption of the mineral lick along Tennaya Creek • Locate roads and mine infrastructure to minimize disruption of wildlife, in particular mountain goats during kidding season and the use of spring and summer range by mountain ungulates.
Aquatic Ecosystems and Riparian Habitat	• Maintain water quality and fisheries values, including within the Nuttlude Lake chain and its tributaries, as per GMD[1].
Hunting, Trapping, Guide-outfitting, Fishing	• As per GMD
Recreation/Tourism	• Minimize potential to damage or destroy unique volcanic features e.g., (Pipe Organ Rock) during blasting.
Visual quality	• As per GMD. • Where road access is required, plan road layout to minimize visual impacts from Nuttlude Lake (e.g., using forest screening).
Access Management	• Manage public use of any new access cooperatively between BC Parks and the responsible agencies in consideration of the park management plan for Mount Edziza Provincial Park • Recommend that permits for a road through Mount Edziza Provincial Park be issued in a timely manner in the event of mine development being approved in the Mount Edziza Resource Management Zone. For advanced mineral exploration e.g., bulk sampling, consider allowing road access through Mount Edziza Park where reasonable review determines that no practicable alternative exists. Any decision to put a road through the park should be accompanied by an appropriate public review process. (See Appendix 5: Policy Recommendations)
Mineral and Energy Resources	• This zone will be available for staking, mineral exploration, and mine development for a period of 20 years from the date of LRMP approval. At the end of 20 years, if there are no mineral tenures in place, the zone will be added to Mount Edziza Provincial Park. If there are tenures in place 20 years from plan approval, the zone will be added to the park once tenures lapse. • To the extent possible, fully reclaim all land disturbed by mineral exploration and mine development.
Timber	• Commercial timber harvesting is not allowed in this zone. • Minimize the harvesting of timber during mine development e.g., only harvest timber where necessary to clear mine sites and access roads. Timber required for mine construction should be harvested from outside the zone

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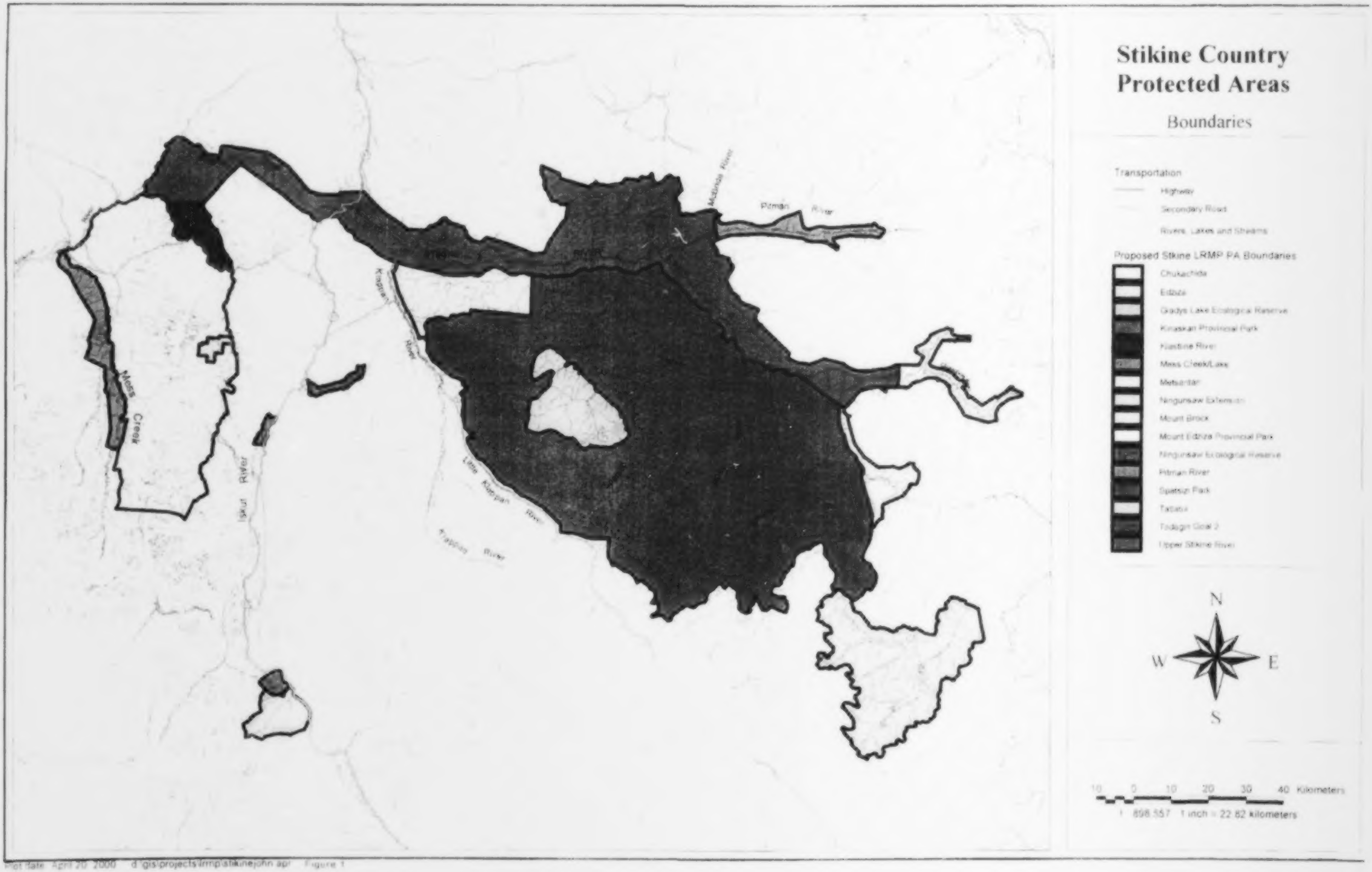
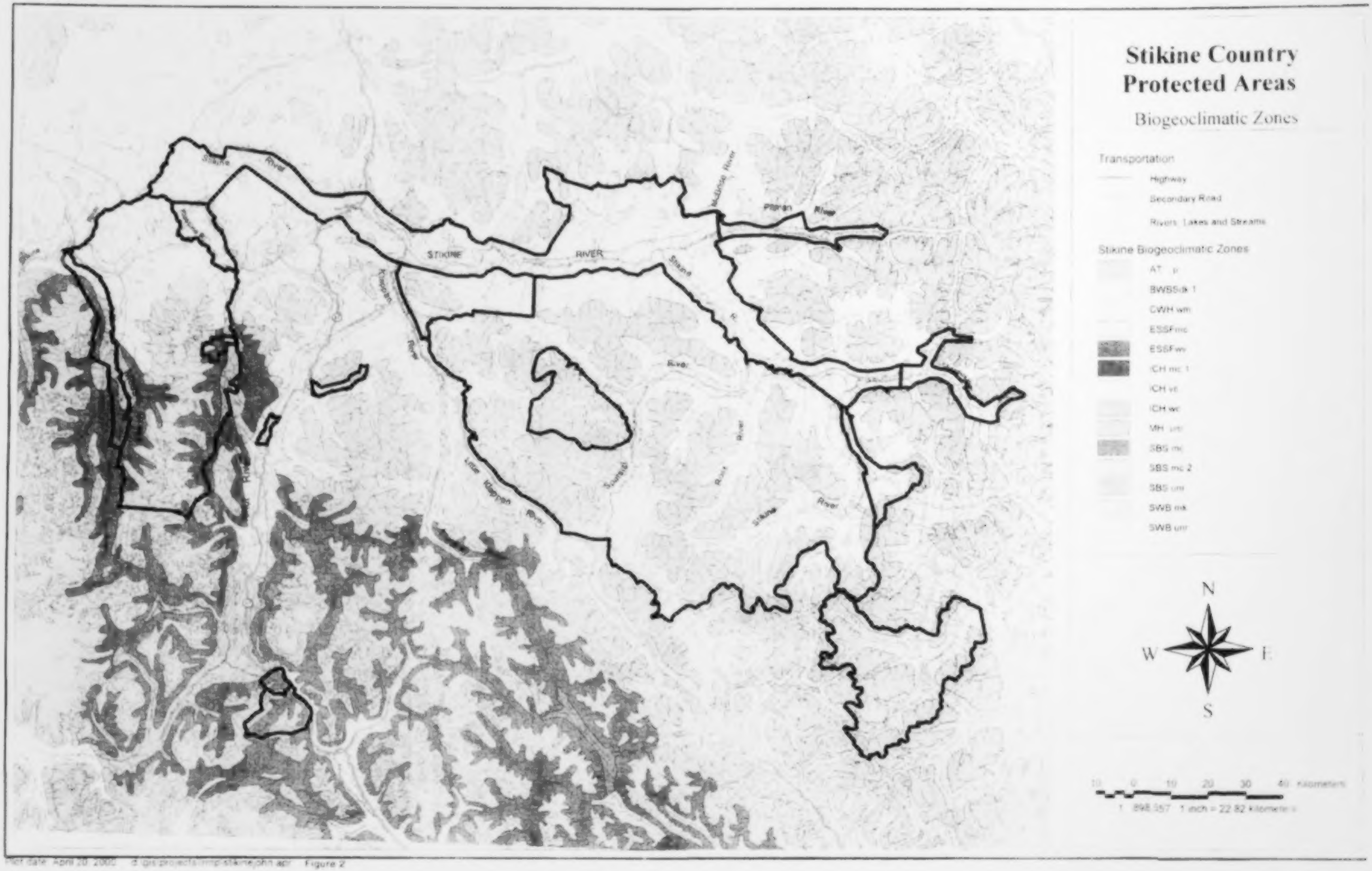
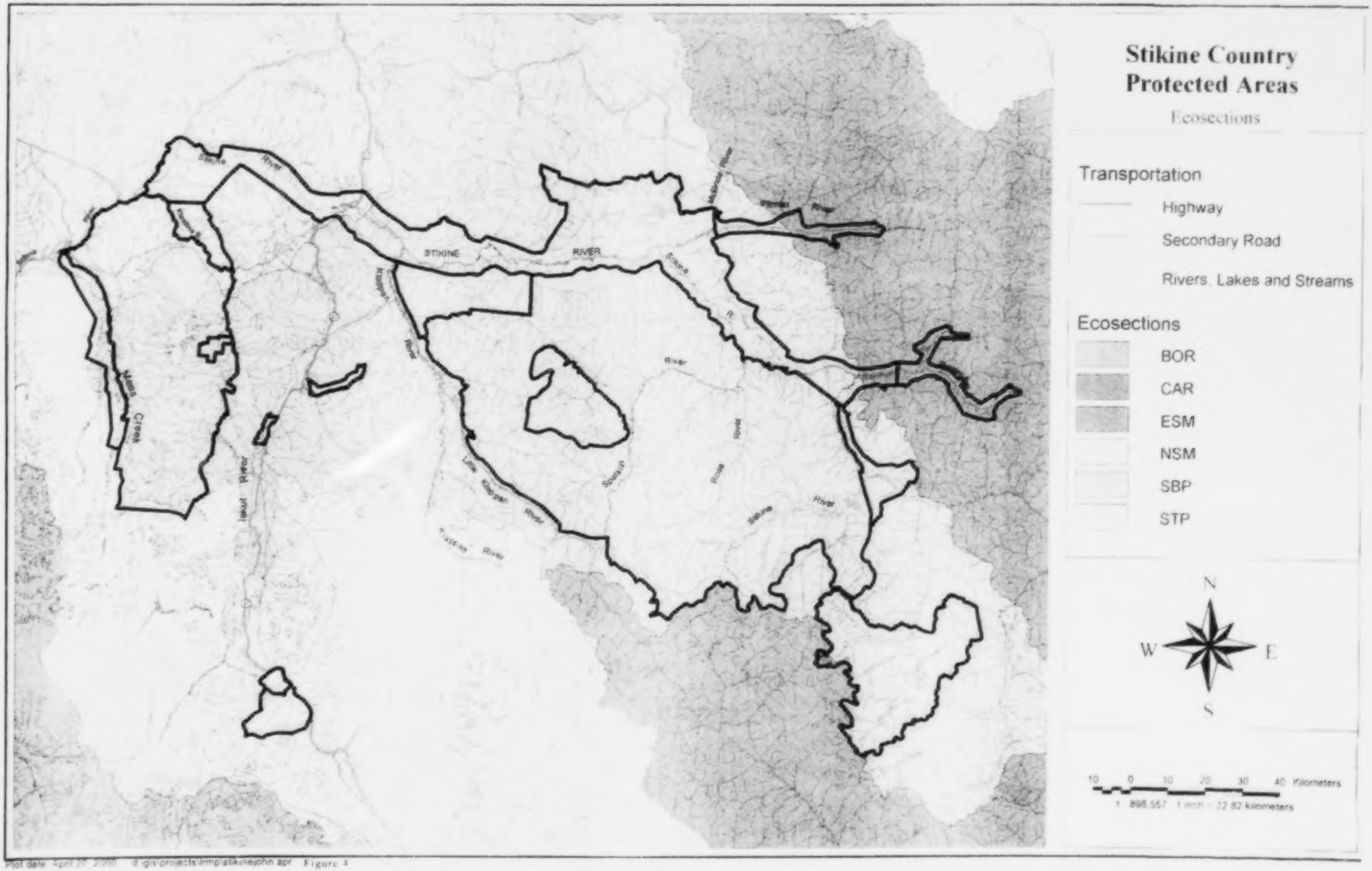
[1] GMD = Cassiar Iskut-Stikine LRMP General Management Direction for the whole LRMP area


Stikine Country
Protected Areas
Boundaries
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Proposed Stikine LRMP PA Boundaries
Chukachida
Edziza
Gladys Lake Ecological Reserve
Kinaskan Provincial Park
Klastine River
Mess Creek/Lava
Metsantan
Ningunsaw Extension
Mount Brock
Mount Edziza Provincial Park
Ningunsaw Ecological Reserve
Pitman River
Spatsizi Park
Tatatui
Todagin Goat 2
Upper Stikine River
N
W
E
S
10 0 10 20 30 40 Kilometers
1 : 898,557 1 inch = 22.82 kilometers
Mess Creek
Iskut River
Klappan River
Little Klappan River
Klappan River
McBride River
Pitman River
River

Plot date: April 20, 2000 d:\gis\projects\lrmp\stikinejohn.apr Figure 1

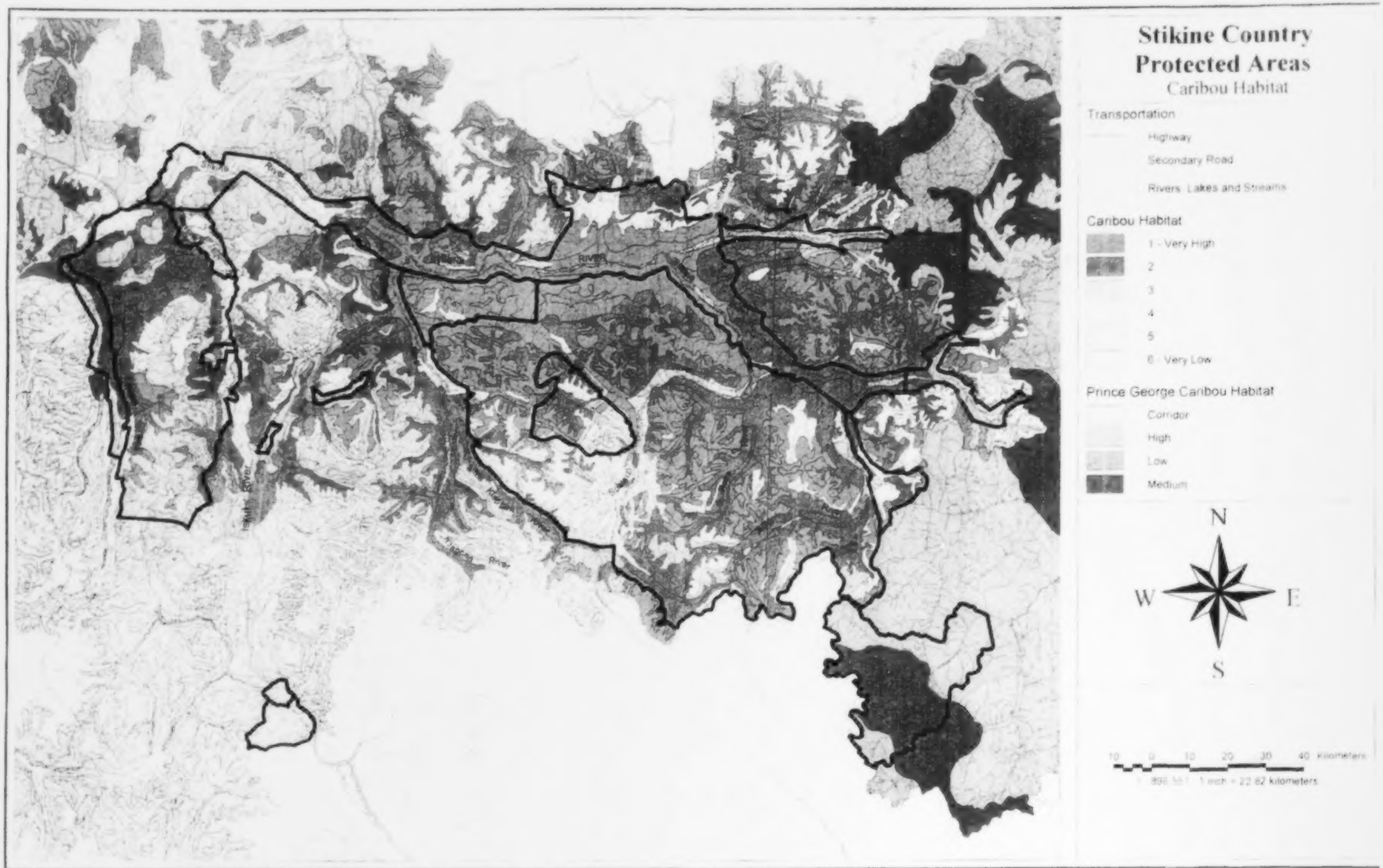

Stikine Country
Protected Areas
Biogeoclimatic Zones
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Stikine Biogeoclimatic Zones
AT p
BWBSdk 1
CWH wm
ESSFmc
ESSFwv
ICH mc 1
ICH vc
ICH wc
MH un
SBS mc
SBS mc 2
SBS un
SWB mk
SWB un
N
W
E
S
10 0 10 20 30 40 Kilometers
1:898,357 1 inch = 22.82 Kilometers
Stikine River
STIKINE RIVER
Stikine R.
Stikine River
Pitman River
Klappan River
Little Klappan River

Plot date: April 20, 2000   d:\gis\projects\rmp\stikine\john.apr   Figure 2

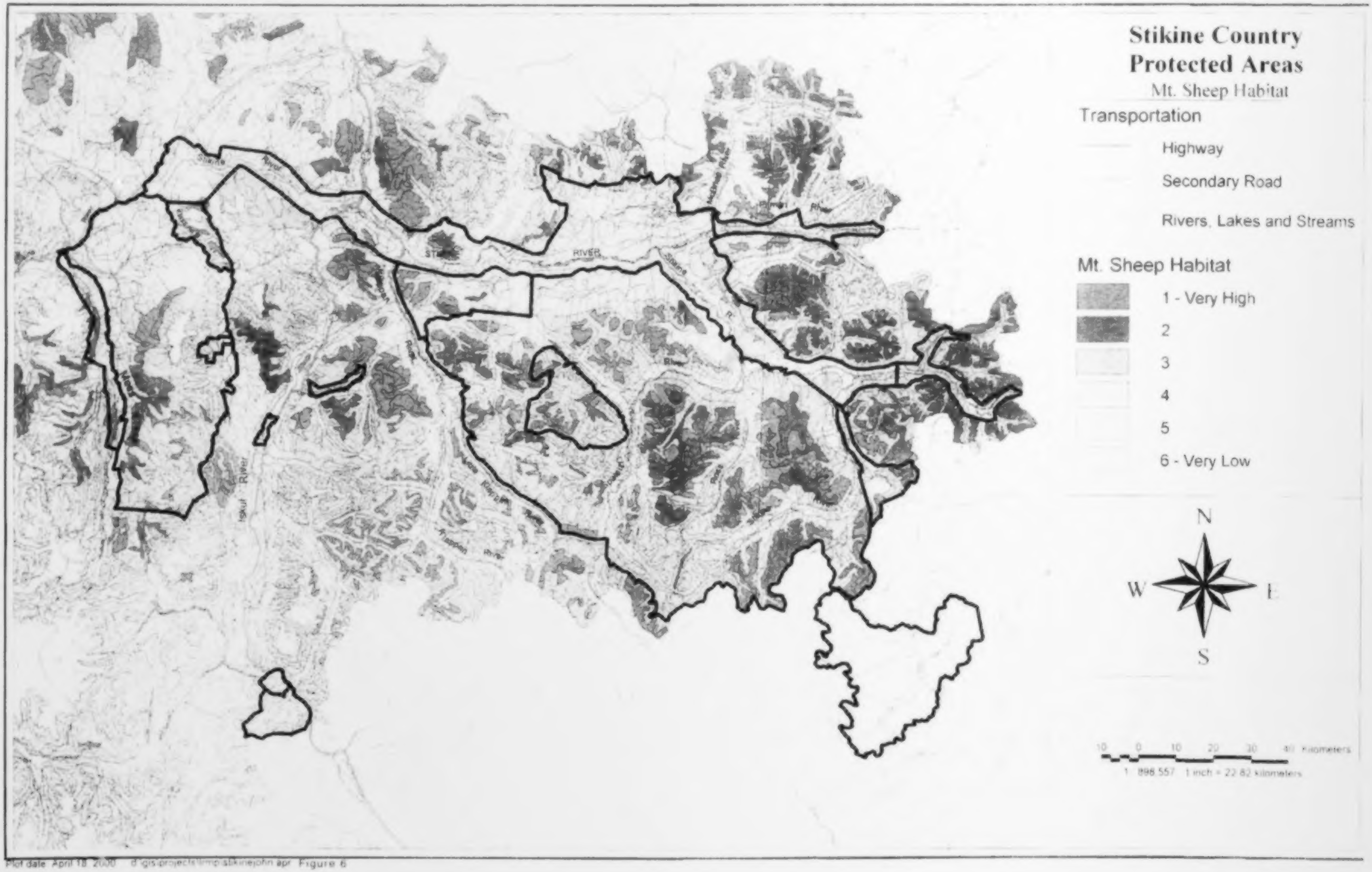


Stikine Country
Protected Areas
Ecosections
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Ecosections
BOR
CAR
ESM
NSM
SBP
STP
N
W
E
S
10 0 10 20 30 40 Kilometers
1 : 898,557 1 inch = 22.82 kilometers
Stikine River
STIKINE RIVER
Stikine R.
Klappan
River
Little Klappan River
Klappan River
Spatsizi
Iskut River
Mess Creek
Stikine River
Rose River
River

Plot date April 26, 2000 d:\gis\projects\lrmp\stikinejohn.apr Figure 4

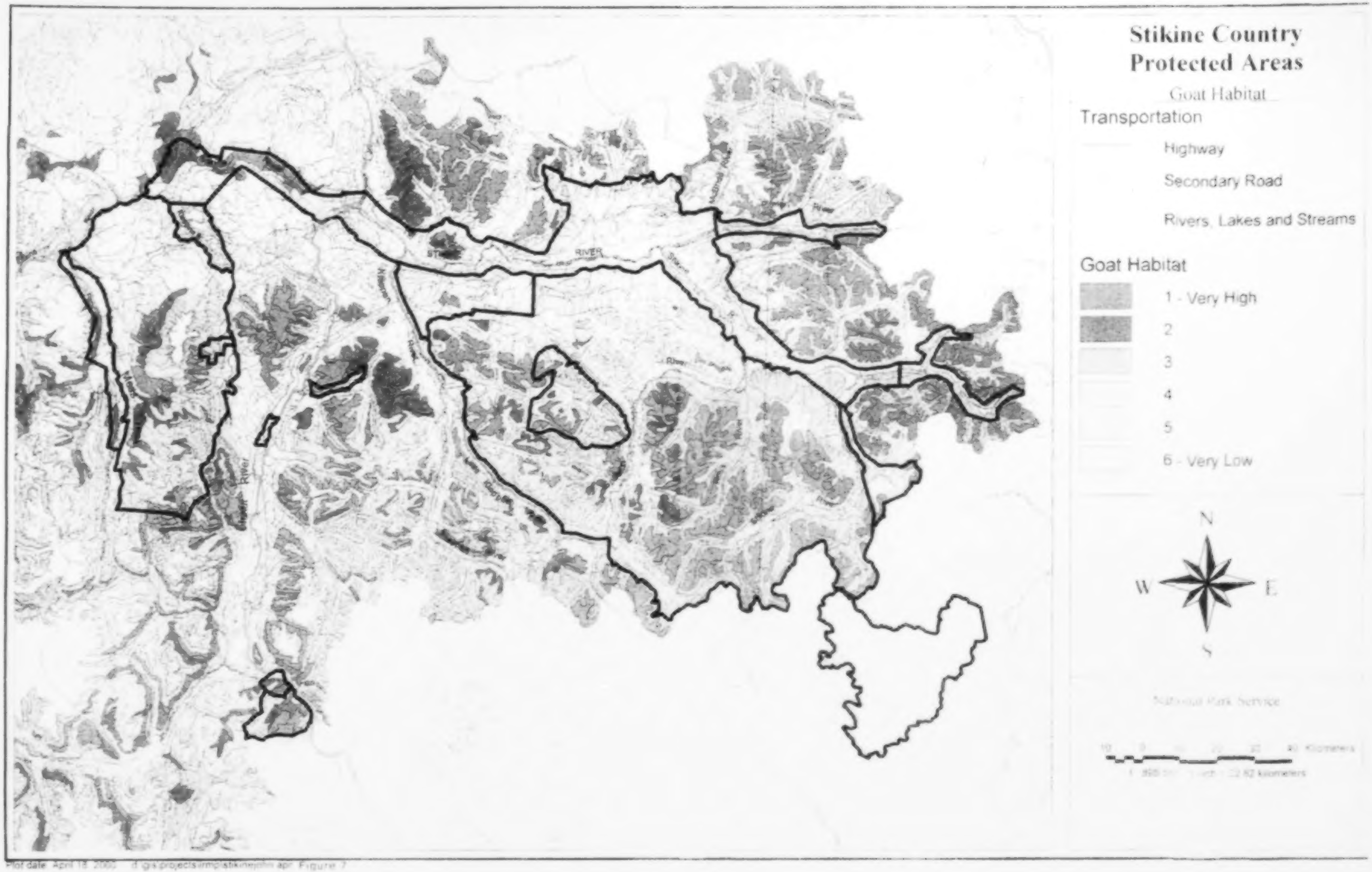

Stikine Country
Protected Areas
Caribou Habitat
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Caribou Habitat
1 - Very High
2
3
4
5
6 - Very Low
Prince George Caribou Habitat
Corridor
High
Low
Medium
N
W
E
S
10
0
10
20
30
40
kilometers
1:898,551 1 inch = 22.82 kilometers
Stikine River
River
Iskut River
River
River

Plot date April 18 2000 d:\gis\projects\lmp\stikinejohn.apr Figure 5

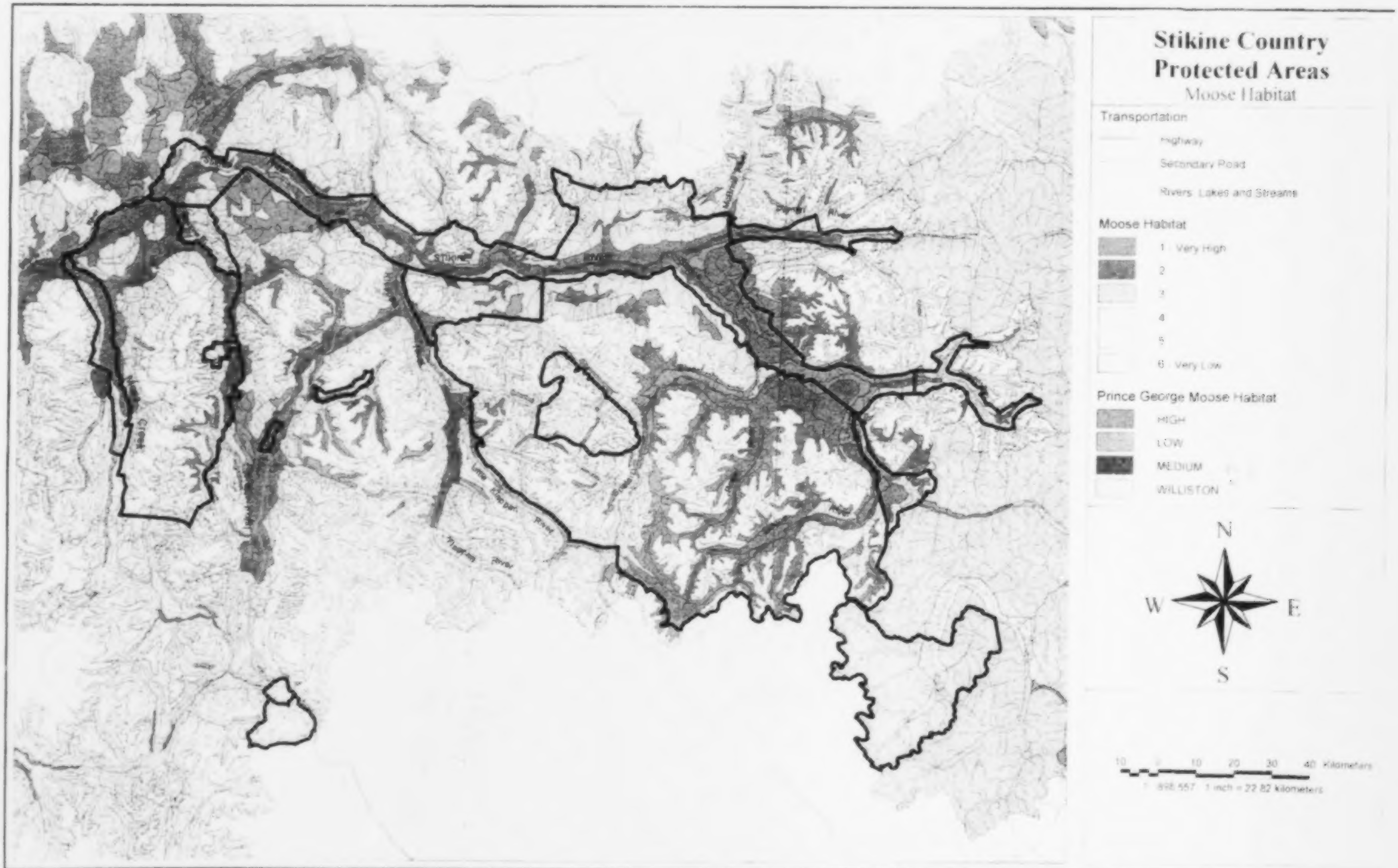


Stikine Country
Protected Areas
Mt. Sheep Habitat
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Mt. Sheep Habitat
1 - Very High
2
3
4
5
6 - Very Low
N
W
E
S
10 0 10 20 30 40 Kilometers
1 898,557 1 inch = 22.82 kilometers
Stikine River
RIVER
Iskut River
Klappan River

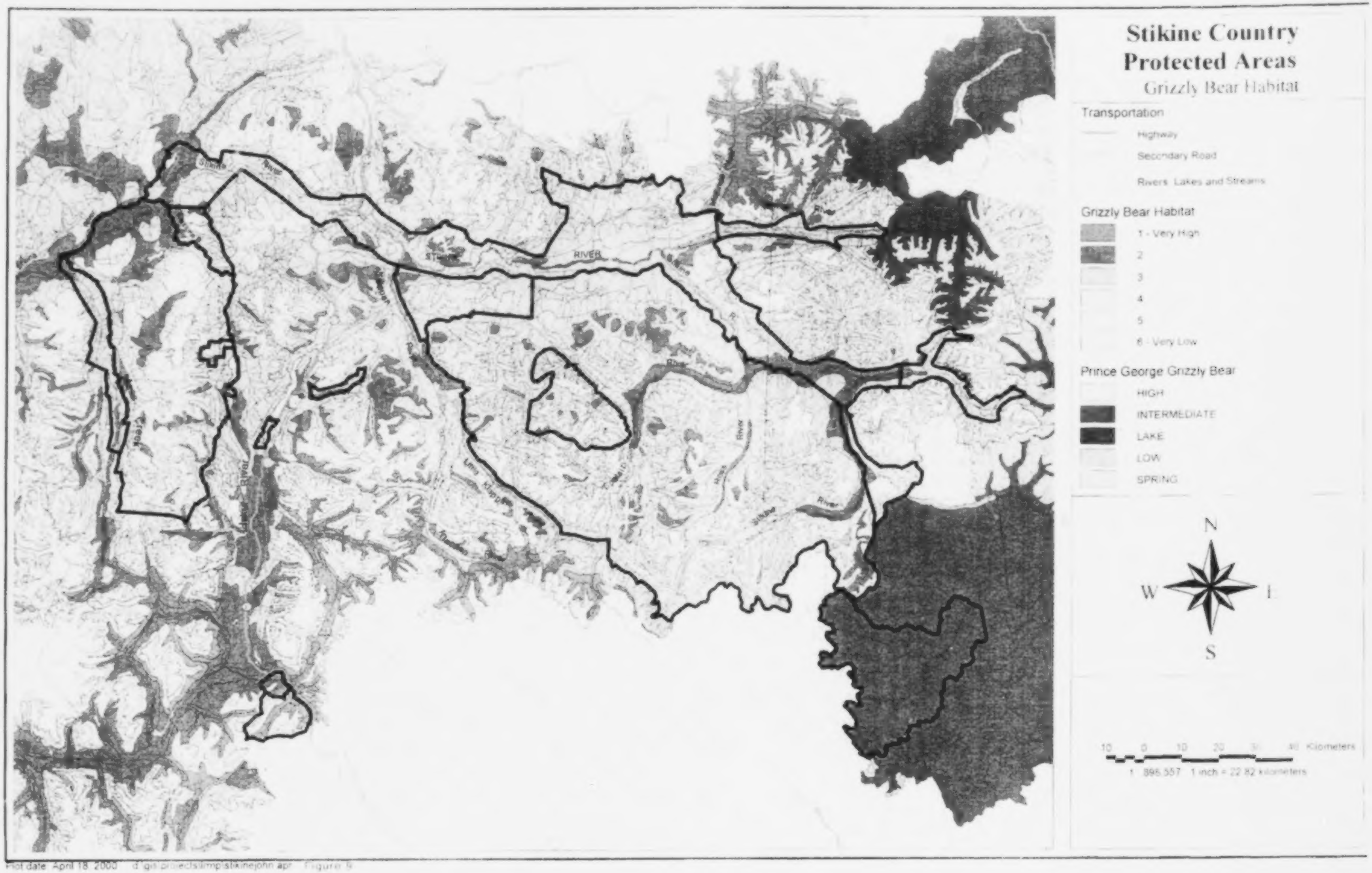
Plot date April 18 2000 d:\gis\projects\lrmp\stikinejohn.apr Figure 6


Stikine Country
Protected Areas
Goat Habitat
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Goat Habitat
1 - Very High
2
3
4
5
6 - Very Low
N
W
E
S
National Park Service
10 0 10 20 30 40 Kilometers
Stikine River
RIVER
Klappan River
River

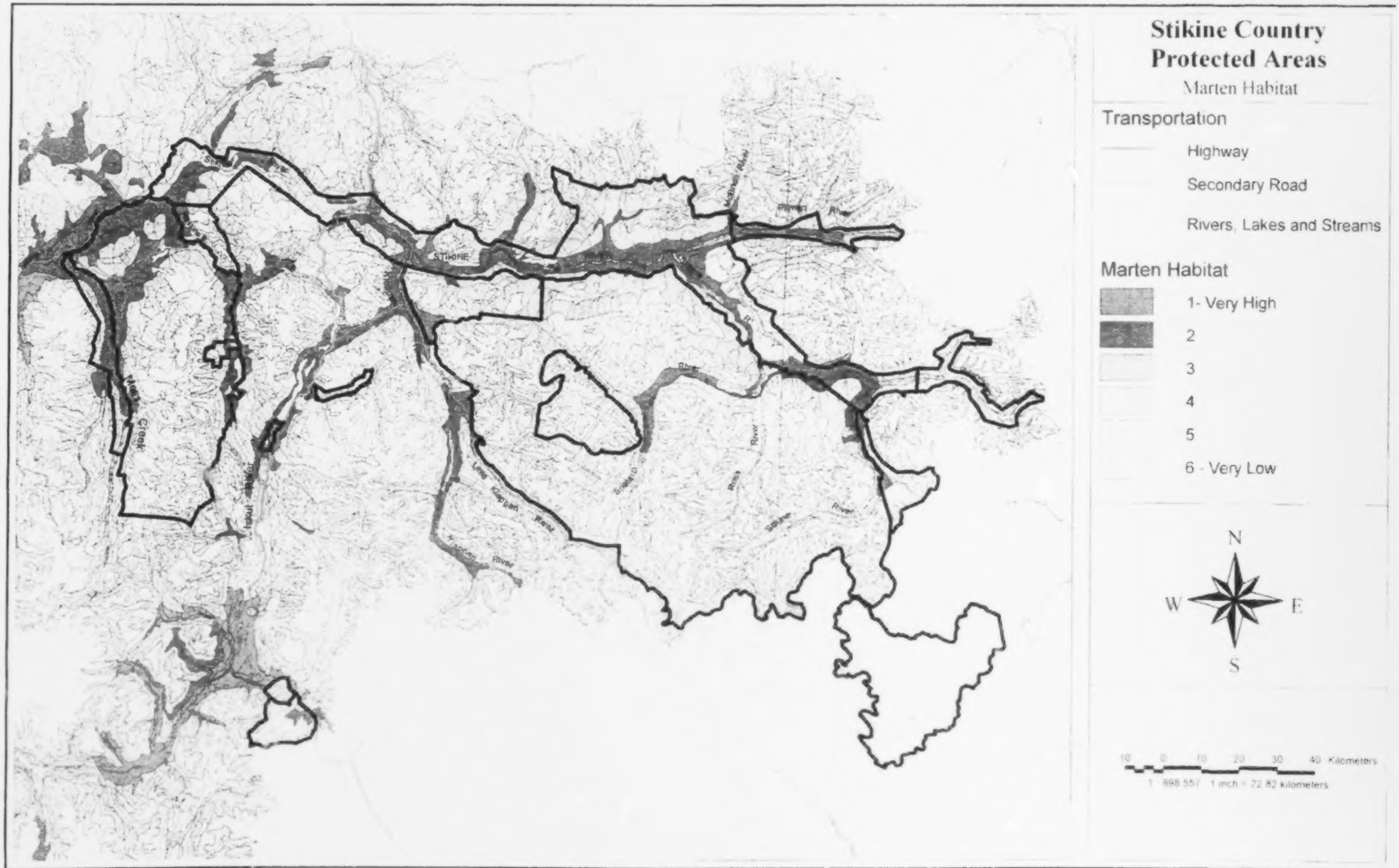
Plot date April 18, 2000 d:gis:projects:rmp:stikine:jthm.apr Figure 7


Stikine Country
Protected Areas
Moose Habitat
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Moose Habitat
1 - Very High
2
3
4
5
6 - Very Low
Prince George Moose Habitat
HIGH
LOW
MEDIUM
WILLISTON
N
W
E
S
10
0
10
20
30
40 Kilometers
1 : 898,557 1 inch = 22.82 kilometers
Stikine
River
Creek
Little Tuya River
Tuya River
Klastline River

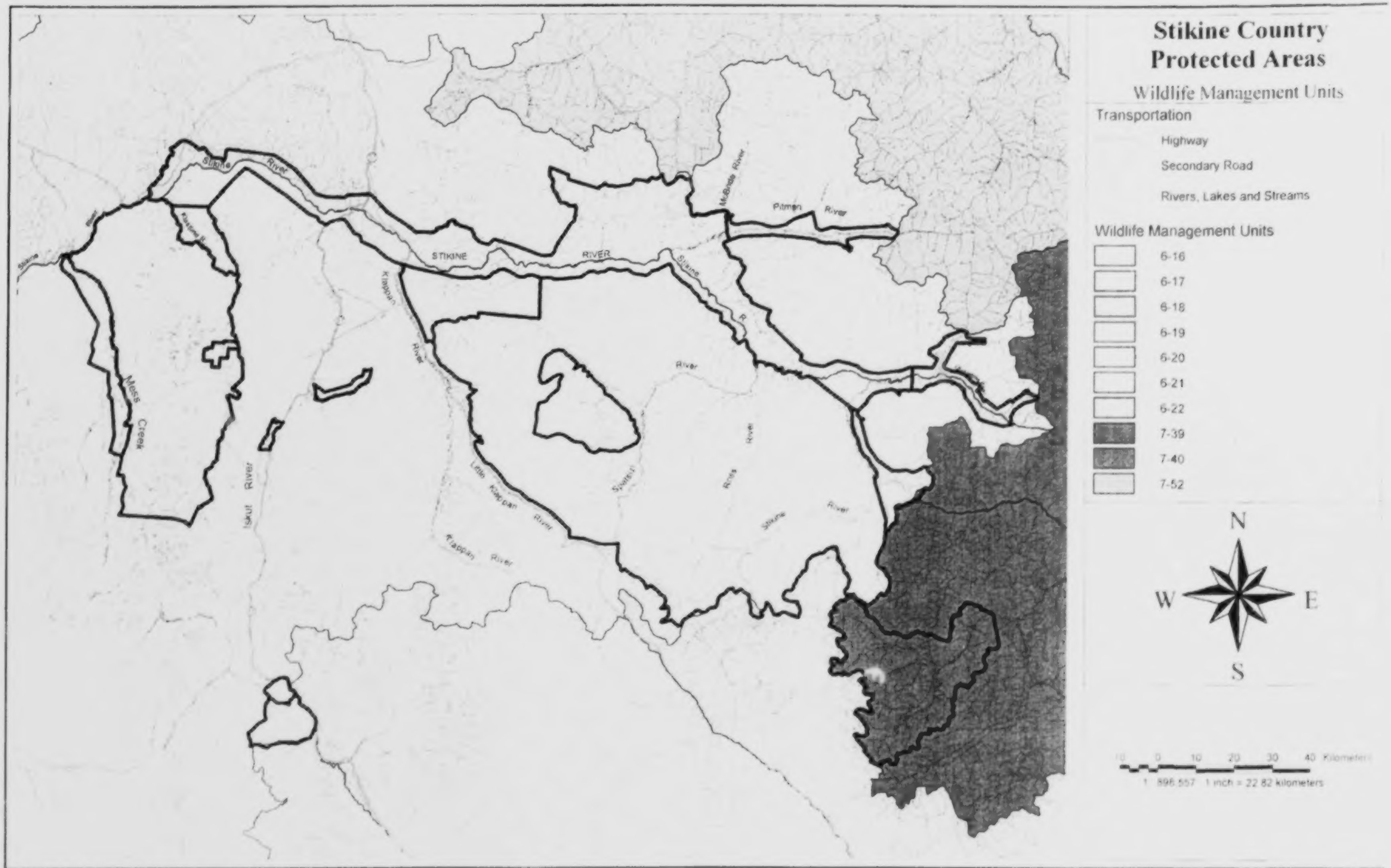
Plot date April 18, 2000 d:\gis\projects\lrmp\stikine\phn.apr Figure 8


Stikine Country
Protected Areas
Grizzly Bear Habitat
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Grizzly Bear Habitat
1 - Very High
2
3
4
5
6 - Very Low
Prince George Grizzly Bear
HIGH
INTERMEDIATE
LAKE
LOW
SPRING
N
W
E
S
10 0 10 20 30 40 Kilometers
1: 896,557 1 inch = 22.82 kilometers
Stikine River
RIVER
Stikine
Creek
Little Klappan
Stikine River

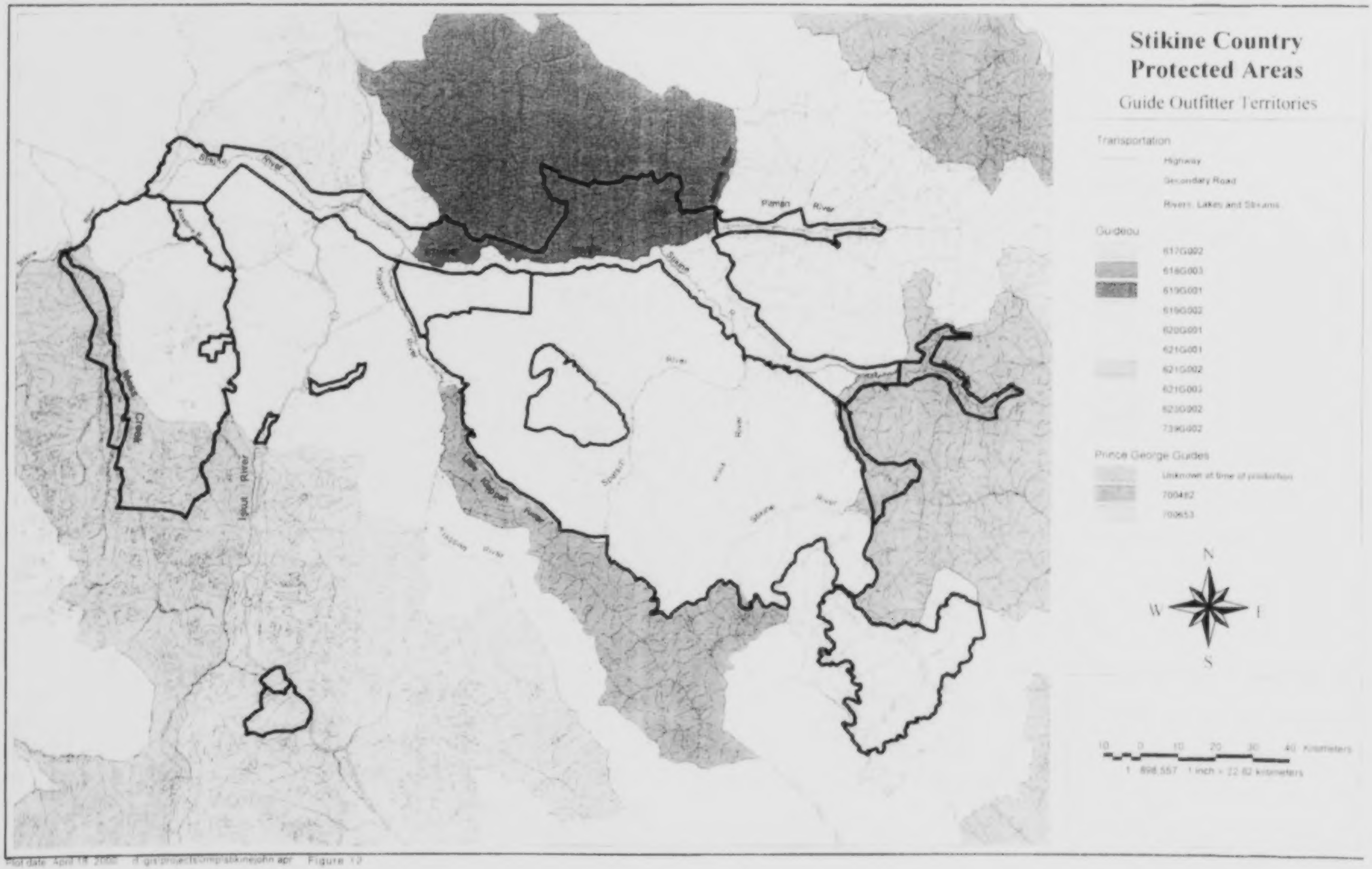
Plot date: April 18, 2000   d:\gis\projects\lmp\stikinejohn.apr   Figure 9


Stikine Country
Protected Areas
Marten Habitat
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Marten Habitat
1- Very High
2
3
4
5
6 - Very Low
N
W
E
S
10 0 10 20 30 40 Kilometers
1 898 557 1 inch = 22.82 kilometers
Stikine River
STIKINE
McBride River
Pitman River
Mess Creek
Iskut River
Little Klappan River
Klappan River
Spatsizi
Ross River
Stikine River

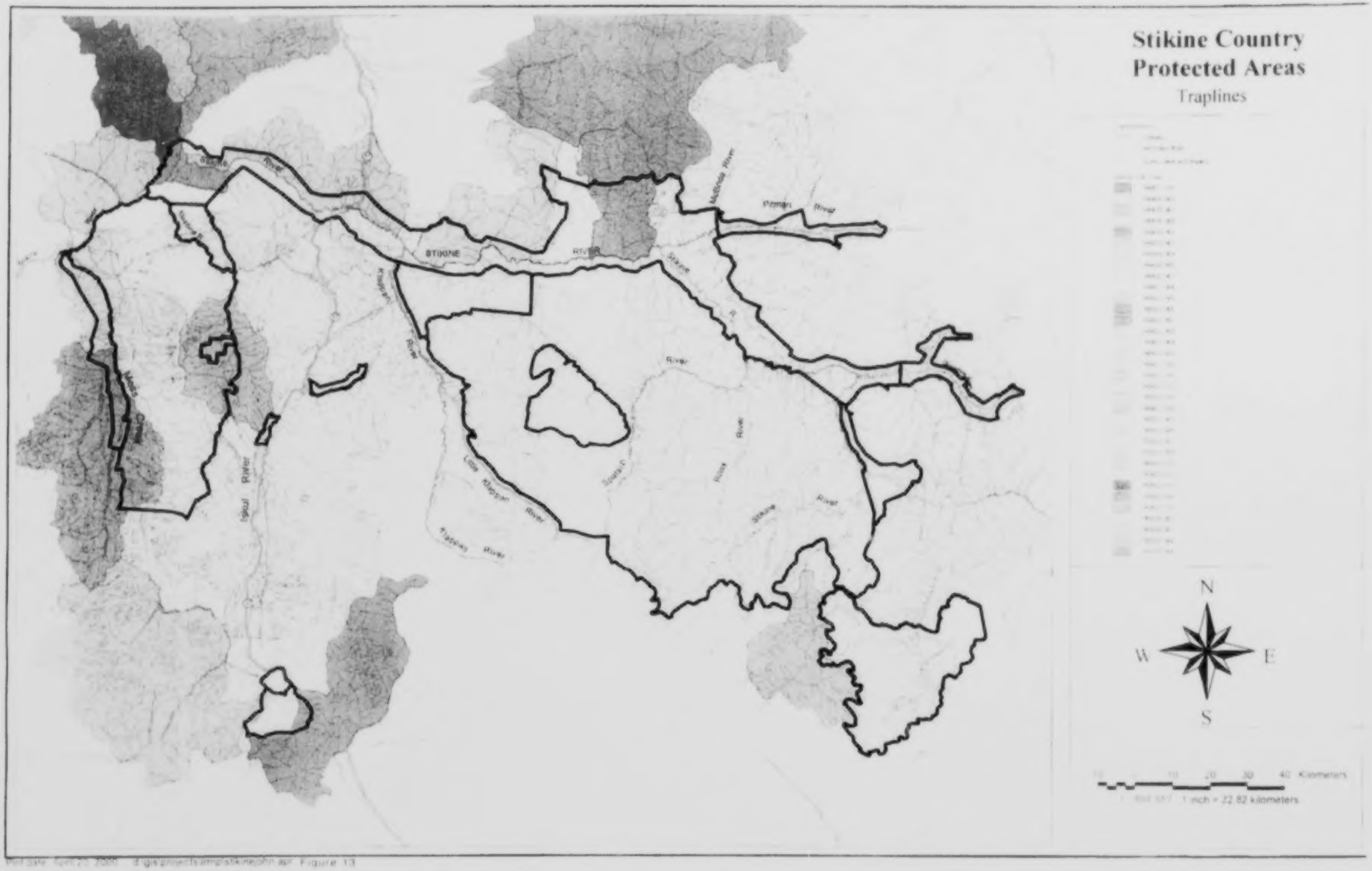
Plot date April 18 2000 d:\gis\projects\lrmp\stikinejohn.apr Figure 10


Stikine Country
Protected Areas
Wildlife Management Units
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Wildlife Management Units
6-16
6-17
6-18
6-19
6-20
6-21
6-22
7-39
7-40
7-52
N
W
E
S
10 0 10 20 30 40 Kilometers
1: 896,557 1 inch = 22.82 kilometers
Stikine River
STIKINE RIVER
Stikine R.
Klastline R.
Mess Creek
Iskut River
Klappan River
Little Klappan River
Spatsizi River
McBride River
Pitman River
Stikine River
Ross River
River

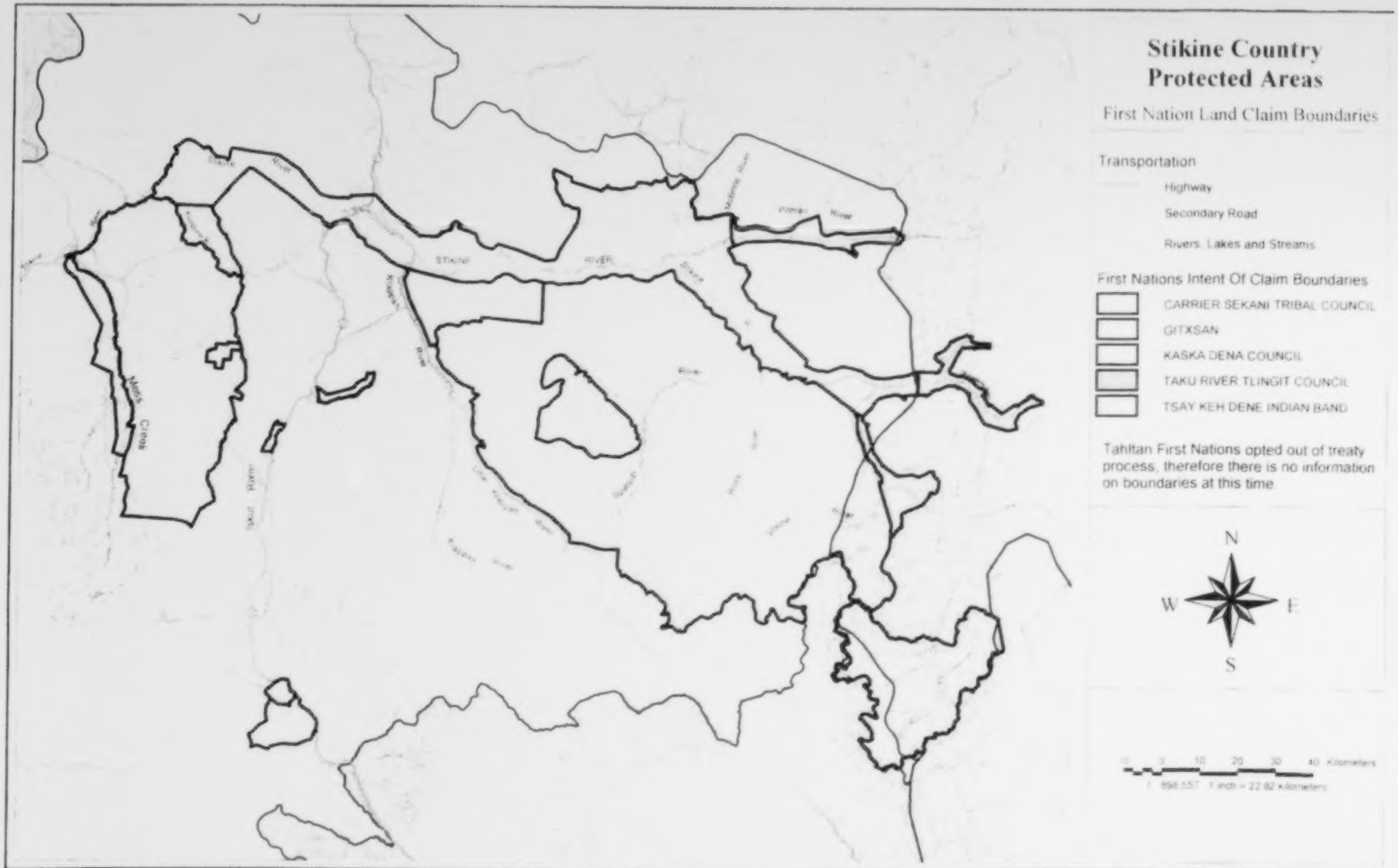
Plot date April 18, 2000 d:\gis\projects\lrmp\stikine\[illegible] apr Figure 11


Stikine Country
Protected Areas
Guide Outfitter Territories
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
Guideou
617G002
618G003
619G001
619G002
620G001
621G001
621G002
621G003
623G002
739G002
Prince George Guides
Unknown at time of production
700482
700653
N
W
E
S
10 0 10 20 30 40 Kilometers
1 : 898,557 1 inch = 22.82 kilometers
Stikine River
Klappan River
Little Klappan River
Spatsizi River
Stikine River
Pitman River
Iskut River
Mess Creek

Plot date: April 18, 2000 d:\gis\projects\lrmp\stikinejohn.apr Figure 12


Stikine Country
Protected Areas
Traplines
N
W
E
S
0
10
20
30
40 Kilometers
1 inch = 22.82 kilometers
Stikine River
STIKINE RIVER
Stikine R.
Stikine River
Klappan River
Little Klappan River
Iskut River
Mess Creek
McBride River
Pitman River
Spatsizi River
Ross River
River

Plot date [illegible] 2000 [illegible] Figure 13


Stikine
River
STIKINE
RIVER
Klappan
River
Little Klappan River
Klappan River
Iskut River
Moss Creek
N
W
E
S
0 10 20 30 40 Kilometers
1 : 898,557 1 inch = 22.82 Kilometers

Stikine Country Protected Areas

First Nation Land Claim Boundaries

Transportation

Highway

Secondary Road

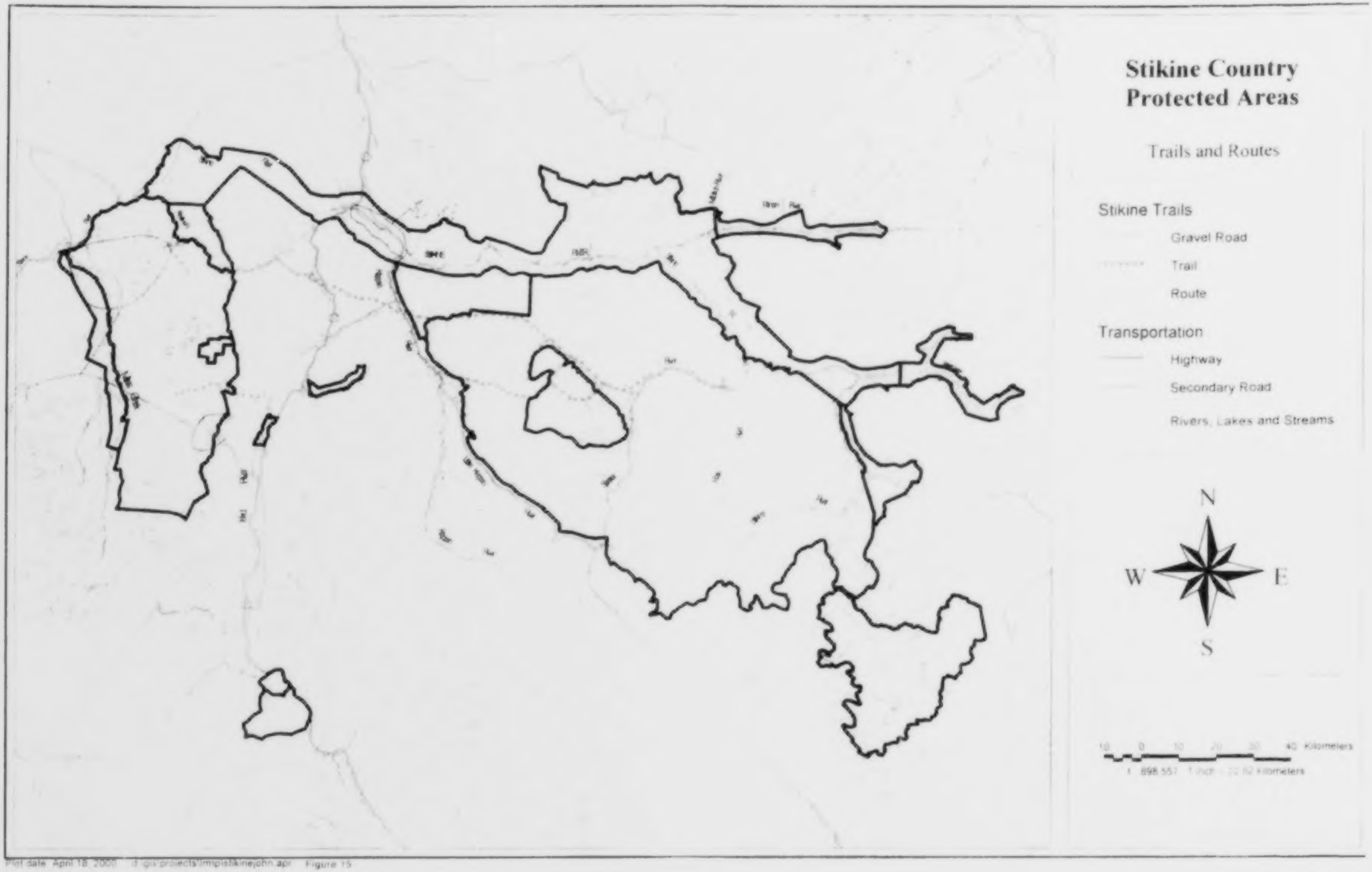
Rivers, Lakes and Streams

First Nations Intent Of Claim Boundaries

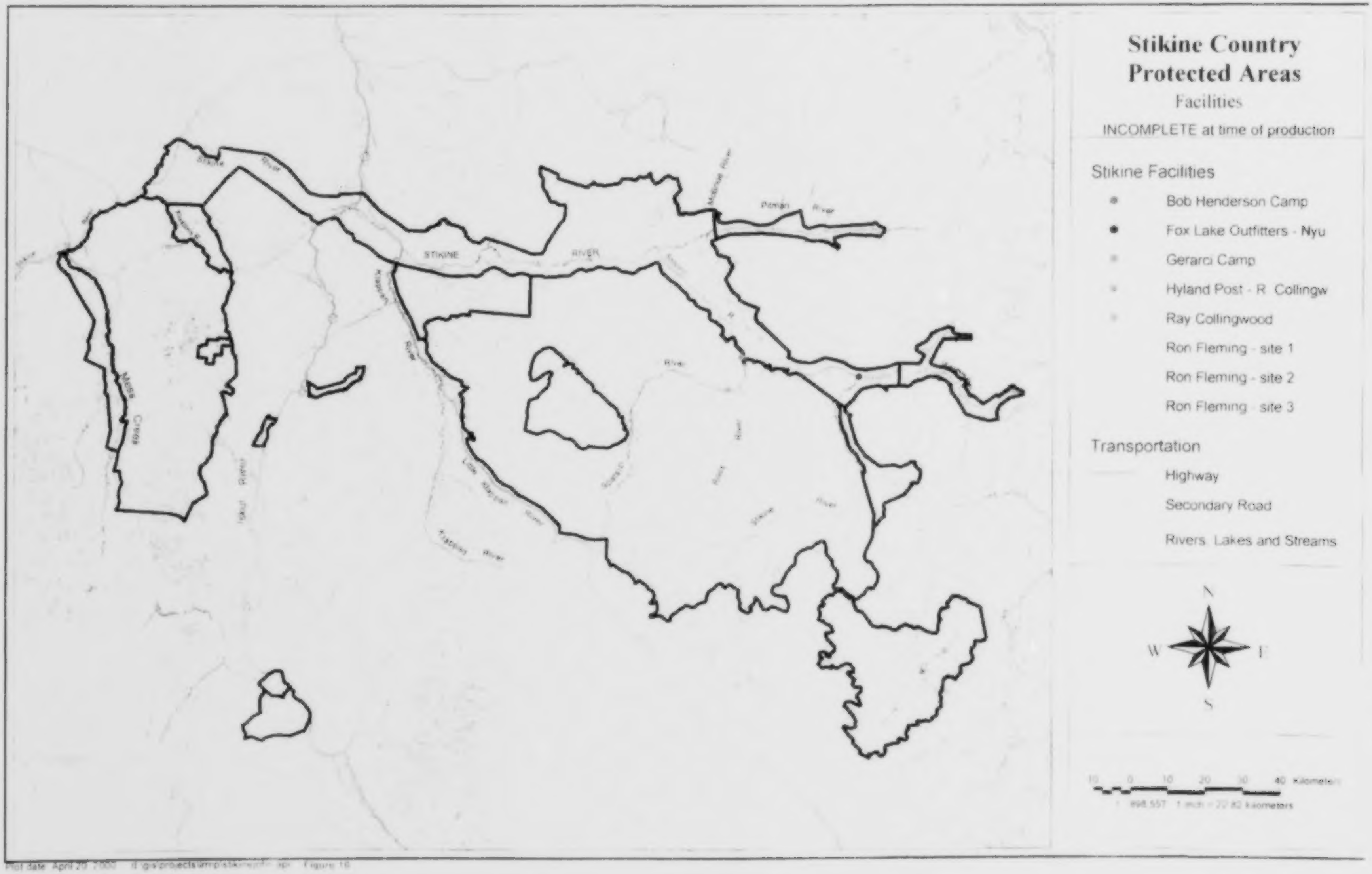
- ☐ CARRIER SEKANI TRIBAL COUNCIL
- ☐ GITXSAN
- ☐ KASKA DENA COUNCIL
- ☐ TAKU RIVER TLINGIT COUNCIL
- ☐ TSAY KEH DENE INDIAN BAND

Tahltan First Nations opted out of treaty process, therefore there is no information on boundaries at this time.

Plot date: April 18, 2000 d:\gis\projects\lrmp\stikinesohn.apr Figure 14


Stikine Country
Protected Areas
Trails and Routes
Stikine Trails
Gravel Road
Trail
Route
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
N
W
E
S
10 0 10 20 30 40 Kilometers
1 : 898,557 1 inch = 22.82 Kilometers

Plot date: April 18, 2000 d:\gis\projects\lrmp\stikinejohn.apr Figure 15


Stikine Country
Protected Areas
Facilities
INCOMPLETE at time of production
Stikine Facilities
● Bob Henderson Camp
● Fox Lake Outfitters - Nyu
● Gerarci Camp
● Hyland Post - R. Collingw
● Ray Collingwood
Ron Fleming - site 1
Ron Fleming - site 2
Ron Fleming - site 3
Transportation
Highway
Secondary Road
Rivers, Lakes and Streams
N
W
E
S
10 0 10 20 30 40 Kilometers
1 : 898,557 1 inch = 22.82 kilometers
Stikine River
STIKINE RIVER
Mcbride River
Pitman River
Klappan River
Little Klappan River
Klappan River
Spatsizi River
Moss Creek
Iskut River

Plot date: April 20, 2000 d:\gis\projects\mp\stikine\fc.apr Figure 16

Exhibit 2: Summary of Public Submissions (written) Regarding the *DRAFT* Stikine Country Management Plan – Sorted by Topic/Issue

TOPIC / ISSUE	SPECIFIC COMMENTS
▪ ***Access: Air***	▪ (Floatplane) "The Plan must allow for reasonable [air] access throughout the area."
▪ ***Access: Air***	▪ The Author is strongly opposes any regulation limiting floatplane access to lands and waters in BC Parks. ▪ "Floatplanes are the least environmentally damaging way of rapid and trackless water access in our province."
▪ ***Access: Air***	▪ P. 77 (Draft MP 1.0) – Insert: "What about air access for industrial activities that are proposed/expected? ▪ P. 78 – regarding phrase: "except… when [flights] have very low impacts…", suggests, adding reference to an Impact Assessment.
▪ ***Access: Air***	▪ Word the language (In Management Plan) for air access similar to how it is worded for motorboat access. ▪ "To achieve [wilderness experience objectives], there needs to be a carrying capacity determined for each water body or other landing area, to access how many aircraft can land/depart in one day without undue disturbance to other users. ▪ Helicopters should not be used, except for management/emergency purposes.
▪ ***Access: Air***	▪ We are… apposed to increased motorized access (floatplane) and increased motorized use (boats on lakes) as Spatsizi Wilderness Park (see Management Plan 1980) was set up as a wilderness park."
▪ ***Access: Air***	▪ The author is opposed to the transfer of responsibility, of the Cold fish airstrip, to the BC aviation council. ▪ The author implies: Helicopters should not be used for portaging canoes and rafts
▪ ***Access: Air***	▪ "I am seriously concerned about [the transfer of] maintenance and liability of the gravel airstrip near the Cold Fish Lake camp to the BC Aviation Council." (Fears that it will lead to commercialization of the area)
▪ ***Access: Air***	▪ Word the language (In Management Plan) for air access similar to how it is worded for motorboat access. ▪ Air access Spatsizi Plateau Wilderness Park should have the same objective as Tatlatui, namely: to manage aircraft access levels and patterns to maintain the wilderness experience of users, and pilot safety: (p. 79 MP 1.0) ▪ Floatplane access should not be allowed on all lakes in the Stikine Country parks system. ▪ "Helicopters should not be used, except for management purposes."

TOPIC / ISSUE	SPECIFIC COMMENTS
▪ ***Access: Air***	▪ "I am very concerned about the proposed restrictions of commercial activities within Spatsizi and Tatlatui Wilderness Parks." ▪ "Further restrictions to wilderness Tourism will put small specialized floatplane operators like us out of business, which in turn would jeopardize the whole outfitting industry in the north."
▪ ***Access Air***	▪ "...The possibility of transferring maintenance and liability of the airstrip and Coldfish Lake to the BC Aviation Council [is of concern to us]. That would have to be very closely monitored so that the airstrip does not become an aeroplane thoroughfare.
▪ ***Access: Air***	▪ "I ask that our government please reassess the decision about to be made on deny[ing] access to lakes in BC Parks."
▪ ***Access: Air***	▪ "The principal area of concern was the prior notification requirement imposed only on private aircraft, and not on any other Park users." ▪ "Commercial fly-out fishing impact far exceeds any pressure of resources by private pilots." - (Private aircraft less than 10% of aircraft activity) ▪ "We strongly solicit support for this important Rights issue from all who value the freedom of access (Private Floatplanes) to our wilderness areas." ▪ "[Three] items of immediate concern [are]: ...referring to 'authorization' rather than 'prior notification', ...specifying which lake, and exact timing... is not possible 4 – 6 months in advance ...[and] the blanket waiver for the BCFA membership... has been eliminated."
▪ ***Access: Air***	▪ "I endorse all the suggestions put forward by the BCFA (see document 0026b) which has done an excellent job in the past by negotiating between parks and private pilots for their mutual interest." ▪ "I have no intention of ceasing to fly into the beautiful lakes in BC... As you are a representative (Gordon Campbell) of our BC residents and taxpayers, we trust you will find a fair solution."
▪ ***Access: Air***	▪ The author is opposed to restricting the access of floatplanes into the Stikine protected area. ▪ "Now... the government... is now considering shutting out the most environmentally friendly way of travel (an over flying floatplane noise last 25 seconds) is very difficult to comprehend."
▪ ***Access: Air***	▪ "The only other 'groups' in Canada requiring authorization and prior notification for destination travel are: 'criminals on parole and illegal immigrants out on bail'." ▪ "Our group has been discriminated from normal Park access." ▪ "We wish to have the Park Act '#27' and section 'A' repealed." ▪ "We wish [for] a consistent standard of Park management from the 11 District Park offices in making regulations."

TOPIC / ISSUE	SPECIFIC COMMENTS
▪ ***Access: Air***	▪ "I am quite concerned about the program of closing off a lot of the lakes of BC to float planes. I am handicapped [mobility]… I can no longer hike any distance and float flying is the only way that I can get into some of the wilderness areas that I used to enjoy." ▪ "I… don't believe that restricting float planes will materially improve the environment…"
▪ ***Access: Air***	▪ I respectfully ask that [Gordon Campbell] cause to be reviewed a singular case of apparent unfair treatment towards a specific group of outdoor enthusiasts, as well as an apparent serious compromise of the Public Review and Consultation practice, pertaining to the drafting of the Stikine Plan." (Re: Conflict between Floatplane Association and BC Parks).
▪ ***Access: Air***	▪ "I am concerned about the requirement in the draft plan for prior written approval for private floatplane entering these areas… Surely parks staff could utilize their time more effectively [rather than enforce this policy]… During [past] consultations an agreement of understanding was reached with seems to have been significantly altered by parks in the final draft of the plan."
▪ ***Access: Air***	▪ "I am concerned about the requirement in the draft plan for prior written approval for private float planes entering the [protected] areas… This is discriminatory, contrary to agreements reached through consultation with the BC Floatplane Association, and puts an increased regulatory workload on Parks Staff at a time of reduced budgets." ▪ "The additional regulations proposed (prior written approval)… may seriously impair the spirit of cooperation which has fostered [past cooperative] volunteer projects in the past."
▪ ***Access: Air***	▪ "I respectfully ask that [Joyce Murray] cause to be reviewed a singular case of discrimination and unfair treatment of a specific group of outdoor enthusiasts, as well as an apparent serious compromise of the Public Review and Consultation practice, pertaining to the Drafting of the Stikine Plan." ▪ "BC Parks has not been negotiating in good faith: accords reached through months of consultation have been summarily discarded in the Draft Plan released Dec. 20th."
▪ ***Access: Air***	▪ "Restricting access to [public land in BC] by float aircraft seems a regressive step. I would like to join others in asking [Gordon Campbell] to review the restrictions of access to Public Lands to all British Columbians."
▪ ***Access: Air***	▪ "I am writing to ask that [Gordon Campbell] carefully review the proposal for the use of floatplanes in the Stikine protected areas that is currently under development." ▪ "Please see to it that traditional floatplane use is allowed to continue unhindered." ▪ "Our [float] plane allows us to visit areas without impacting land areas… the noise level is quite low, especially compared to ATVs, snowmobiles, and two-cycling outboard motors."

TOPIC / ISSUE	SPECIFIC COMMENTS
▪ ***Access: Air***	▪ "I understand that the parks branch is moving forward with plans to restrict/deny access to park lakes by BC floatplanes. [I am opposed to this policy.]" ▪ "I know that families of modest means..., [limited] time, and with handicapped people... [need floatplane service in order to access the far backcountry of BC]. Our planned restrictions would deny park access (floatplanes) to such people, and by default make public parks the exclusive playground of the rich, and the leisured."
▪ ***Access: Air***	▪ "I... [want] you to reconsider BC Parks plan to restrict private floatplane access to the Stikine Protected Areas and other wilderness areas of BC." ▪ "The sound a floatplane makes is loud... [but it is of] short duration... compared with snowmobiles, boats, jetskis, [ATVs], which create sound pollution... for long periods... [and] impact the terrain. [Pilots] try to reduce [their] impact with noise abatement procedures when flying."
▪ ***Access: Air***	▪ The author is opposed to restricting the access of private floatplanes to the Stikine. ▪ The author feels that private floatplanes are the least environmentally damaging method of accessing the area. The author does recognize that the noise levels are an issue, but the author feels that other means are just as offensive, if not more.
▪ ***Access: Air***	▪ "...I wish to protest plans to curtail private aircraft activities in BC Parks." ▪ "The tiny marginal cost of the very small number of private aircraft operating in BC Parks is hugely offset by the social and economic benefits they bring." (For example: reporting fires, natural hazards, and weather phenomenon, helping with: public safety, and civil defence.)
▪ ***Access: Air***	▪ "Common sense dictates a partnership between the BCFA and BC Parks to maintain access to lakes, encourage environmental stewardship and help monitor use of the lakes for the government." ▪ "Compared to other means of access, aircraft are the least damaging to the environment, short term noise not withstanding."
▪ ***Access: Air***	▪ "I have... great concern [with] your Government's intent to ban float plane access to BC Parks." ▪ "Banning [floatplanes] from park lakes discriminates against plane owners and does not create any environmental benefit whatsoever."
▪ ***Access: Air***	▪ "As a private float plane pilot I read with great concern that private float planes will be restricted in the Stikine Protected Areas." ▪ "If commercial float plane operations are to be allowed to use lakes then private floatplanes should similarly be allowed access." ▪ "I urge you to recognize that float planes make almost no impact on parks. They do no damage to the land, and in most ways are less intrusive than power boats."

TOPIC / ISSUE	SPECIFIC COMMENTS
▪ ***Access: Air***	▪ "I would like to request that you (Joyce Murray, MLA) withdraw support for the proposed regulation requiring permits to land in these (Atlin, Tagish, Lake Bennett) areas." ▪ "Please consider carefully before you enact regulations that will curtail and activity that was key to the development of... remote areas..."
▪ ***Access: Air***	▪ The author is opposed to any restricted access of private aircraft to lakes in BC. ▪ "Aircraft do not cause any environmental damage whatsoever and I might add that for many, many years pilots have been our eyes and ears when it comes to the BC wilderness."
▪ ***Access: Air***	▪ I understand that the BC Park Act... contains wording that says aircraft require prior permission before visiting many of BC's wilderness parks." ▪ Restricting aircraft access will cause "some visitor spending to be lost..."
▪ ***Access: Air***	▪ "I live in the USA and fly a floatplane for recreation. I planned on visiting your wonderful country this summer and I just cancelled my plans because of your policy toward floatplanes." ▪ "You (Joyce Murray, MLA) do not represent your country well, your province well, or your fellow man in pursuit of clean, non-polluting recreation. Shame on you."
▪ ***Access: Air***	▪ The author is opposed to floatplane restriction on lakes throughout Canada. ▪ "If indeed float plane impact is a problem and there is legitimate objective evidence to support that conclusion (which I doubt), the best solution would be to only require a few certain lakes to have reservations or maybe ban all motorized craft on a few of them and then gather data as to efficacy of the plan."
▪ ***Access: Air***	▪ "I am a member of the BCFA. Please add my name to the..." list of other people who have written in opposition of restrictive regulations limiting access of floatplanes to BC Park lakes.
▪ ***Access: Air***	▪ "I am in complete agreement with John Baker (BCFA's Director) on this matter and with the points he has presented."
▪ ***Access: Air***	▪ "I do not recognize any problems with aircraft use in these areas" – Please forward any apposing information to the author for review. ▪ "The proposed method of aircraft management is totally unnecessary but 'most of all' these methods are very impractical and will infringe on the rights of pilots Canada wide."
▪ ***Access: Air***	▪ "I was dismayed to hear that BC Parks has taken it upon themselves to propose added regulations that will affect a very responsible group of citizens that actually help enforce existing regulations and sae the government money." ▪ "The weather is so varied and unpredictable that even 2 or 3 days notice [to land on lakes] would be doubtful."

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▪ ***Access: Air***	▪ "As the owner and operator of a private float plant, we request the same rights as people with cars, motorcycles, motor-homes, trucks and campers, motorboats visiting these lakes and rivers. It is very unfair and unreasonable to restrict access for airplanes in this area." ▪ "To request access permission for any time in advance of a trip is impractical and unsafe due to weather restraints at those times."
▪ ***Access: Air***	▪ (p. 76, MP 1.0): are opposed to prohibiting floatplanes from being stationed within the protected area.
▪ ***Access: Air***	▪ "The British Columbia Aviation Council and the Canadian Owners and Pilots Association support the concept of allowing private aircraft to land on lakes in the Stikine.
▪ ***Access: Air***	▪ Regarding policy for prior notification: "What about delays due to bad weather?"
▪ ***Access: Air***	▪ The author is opposed to any restriction of floatplanes on BC lakes. In addition, the author feels there is no evidence that floatplanes cause negative environmental impact.
▪ ***Access: Air***	▪ The author is opposed to any restricted access of floatplanes into the Protected Area.
▪ ***Access: Air***	▪ The author is opposed to any restriction of floatplanes in the Protected Area. ▪ The author is concerned that PB Parks has 'backed-out' of the deal with the BCFA.
▪ ***Access: Air***	▪ Author expressed concern that the Protected Area may not remain open to floatplanes.
▪ ***Access: Air***	▪ Access regarding: transport, supply loads to helicopters an horses, and poor weather safety landings, "should be allowed with no prior notification and subject of course to standard safety and environmental rules of transport etc."
▪ ***Access: Air***	▪ The author is opposed to any restricted access of floatplanes into the Stikine. ▪ "I will continue to fly into the Stikine, and would be willing to challenge this in court."
▪ ***Access: Air***	▪ The author is opposed to access restrictions regarding floatplanes in the Protected Area. ▪ The author supports statements made by John Baker and Kenneth Armstrong regarding aircraft access.
▪ ***Access: Air***	▪ The author is opposed to restricted access and the requirement for prior approval, of floatplanes entering the Protected Area.
▪ ***Access: Air***	▪ The author is opposed to restricted floatplane access and the discrimination between commercial operators and private visitors in the Protected Area.
▪ ***Access: Air***	▪ The author supports statements made by John baker, on behalf of the BC Floatplane Association, regarding floatplane access. ▪ The Author is concerned that agreements made between the flying community and BC Parks has been ignored in the Draft Plan (1.0).
▪ ***Access: Air***	▪ "I am writing in support of Vice President and Director of BCFA John Baker's letter of Dec 27/02…"

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	▪ "It is my feeling that private floatplane owners are being unfairly discriminated against in respect to use of waterways in our Provincial Parks."
▪ ***Access: Air***	▪ "…I am personally [unhappy] with this decision to limit private aircraft in BC Parks."
▪ ***Access: Air***	▪ "…I strongly support the positions taken by John Baker, Director of the BCFA and by Ken Armstrong, the Western Director of COPA." ▪ "I am very distressed to hear that you are singling out private floatplane operators from having reasonable accessibility to the Stikine Area."
▪ ***Access: Air***	▪ The author is opposed to access restrictions placed on private floatplane going into the Protected Area.
▪ ***Access: Air***	▪ "Please [do not allow] a blanket exclusion of private aircraft from the Stikine Lands and a setting an unfortunate precedent for other management areas of BC and beyond."
▪ ***Access: Air***	▪ "I am… gravely concerned over recent policy drafted by BC Parks [which] discriminates against private aircraft access to…wilderness parklands in the Stikine River area of BC."
▪ ***Access: Air***	▪ "I am very disappointed to hear of BC Park's plan to effectively eliminate private aircraft from the Stikine."
▪ ***Access: Air***	▪ "I am appalled at the apparent intent of some members of the bureaucracy to restrict the freedom and rights of… the flying public. I strenuously object to the revised proposal on floatplane access contained in the Dec. 22, 2002 Draft… Plan."
▪ ***Access: Air***	▪ "I would like to add my voice, as a member of the BCFA, asking you to proceed with caution in excluding or limiting private floatplane traffic into the Stikine Protected Areas." (Opposed to restrictions)
▪ ***Access: Air***	▪ "I… am very concerned with what appears to be deliberate discrimination against the flying public relative to accessing public Lands." ▪ The author is opposed the proposed 'prior notification requirement' in the Draft MP 1.0.
▪ ***Access: Air***	▪ The author opposes any restricted access of floatplanes to BC Lakes.
▪ ***Access: Air***	▪ Regarding p. 75 & 123 (MP 1.0): "The Coldfish airstrip is closed. It should be deactivated and not maintained by any organization." ▪ Regarding p. 77 (MP 1.0): "Low level helicopter access should be limited, and requires strict controls."
▪ ***Access: Air***	▪ Regarding p 76 (MP 1.0): "What are unacceptable impacts." ▪ "[Do] not allow floatplane trips for day use visits to any of the backcountry lakes."
▪ ***Access: Air***	▪ The author feels that language used for motorboat access in the draft plan 1.0 should be applied to Air Access as well. ▪ "Helicopters should not be used except for management."
▪ ***Access: Air***	8.2.1.1 – page 76 ▪ The language 'Prohibit low flights during the ungulate birthing and post-natal season,

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	May 15 – July 15 in birthing and rearing areas." is inadequate. ▪ There should be no reason (except for safety) for pilots to make low flights over sensitive wildlife habitat. ▪ Parks planners should initiate the following planning steps: o Identify core habitats for mountain ungulates, particularly birthing and post-natal areas; o Set prescriptive general and seasonal standards for flights in those areas, with the understanding that those areas may shift over time; ▪ Prescriptive standards for the use of aircraft in identified habitats may look as follows: o Mountain Goats – 2 km from habitat at all times; o Woodland Caribou - 2 km from habitat at all times; and o Thinhorn Sheep - 2 km from habitat at all times.
▪ ***Access: Air***	▪ "I feel that there is not a problem with aircraft in parks". ▪ the Gladys Lake airstrip should be allowed to be reopened.
▪ ***Access: General***	▪ "I oppose suggestions to restrict access into the Stikine area."
▪ ***Access: General***	▪ "Access must continue to be afforded by all reasonable means, including historical ones to those resource areas, only if necessary, via protected areas." Including floatplanes, horses, boats, and helicopters.
▪ ***Access: General***	▪ Regarding section 8.2.3.5 (MP 1.0): "Agree that ATV use is not appropriate and agree with restriction on mountain biking."
▪ ***Access: Motorboat***	▪ "The Overall Direction should include an intent to phase out all loud motors with silent ones within a certain time frame to give some muscle to subsequent proposed actions to "encourage" use of quiet motors. ▪ The onus should be on motorboat users to avoid conflicts with non-motorboats. ▪ "Quiet motors should be required on Buckley Lake, as on all lakes..." ▪ "More needs to be done that simply encouraging non-motorized users to travel when the chance of meeting motorboats is minimal." (reference to Upper Stikine Area)
▪ ***Access: Motorboat***	▪ It is unreasonable to not permit motorboat use at Chapea Lake. ▪ Regarding Potential Commercial Rec. Opportunities (p. 142, MP 1.0): "Please control the commercial motorboat use on the Stikine and consult with the Muskwa-Kechika area to determine impacts of packers and how to manage appropriately." ▪ Consider this policy wording: "BC parks shall not impose any further restrictions on regulations on aircraft activity in the Protected Areas, subject to BC Parks' mandate to enact regulation to protect endangered species, unless there has been a demonstrated impact... BC Parks and the Associations will endeavour to cooperate on changes to the existing regulations..."
▪ ***Access: Motorboat***	▪ The author is opposed to any restriction of access onto the Stikine river system.

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	▪ "The Cassiar LRMP clearly states 'Continue to allow motorized boat use for recreation and hunting along the Stikine, Chuchkachida and Pitman rivers…"
▪ ***Access: Motorboat***	▪ Regarding p. 82 (MP 1.0): "Motorboat access plan should discourage increased usage."
▪ ***Access: Motorboat***	▪ "...phase out all loud motors with silent ones." ▪ "The objective should be to minimise the number of motorboats, not gradually increase them." ▪ "[There are] dangers associated with encounters between motorboats and floatcraft..." ▪ "BC Parks should set an example by providing its boat at Cold Fish Lake with a silent motor."
▪ ***Access: Motorboats***	▪ Enforcement and monitoring of motorboat use by guide outfitters should be done to ensure lawful activities in the Park. ▪ "I feel that motorized and jet boat should only be allowed as far as highland Post for the guide Outfitter and that residents should be allowed not much further. I suggest they not be allowed beyond Kliweguh Creek and that a pull in spot be allowed there is it is close to the trail to Cold Fish Lake." I am not opposed to the outfitters going that far either.
▪ ***Access: Motorboats***	▪ "We want [the Stikine PA] zoned 'Natural Environment' so all user groups can have equal shared access to the Park…" ▪ "The Cassiar LRMP… wanted continued motorized use for recreation and hunting in all of these areas."
▪ ***Access: Motorboats***	▪ "Motorized use should not increase at all."
▪ ***Access: Motorboats***	8.2.1.3 – Motorboat Use ▪ The Overall Direction should include an intent to phase out all loud motors and replace them with silent motors (electric or 4-stroke)
▪ ***Access: Motorized***	▪ The author opposes motorized use at Gladys Lake ER and Spatsizi Wilderness Park.
▪ ***Access: Motorized***	▪ "The use of ATV's for the purpose of setting up and maintaining camps should be allowed except in the alpine."
▪ ***Access: Motorized***	▪ I advocate the phasing "out of all loud motors with silent ones within a certain time frame to give some muscle to subsequent proposed actions to 'encourage' use of quiet motors." ▪ "The dangers associated with encounters between motorboats and floatcraft… must be recognised and managed for." ▪ "Any increased use must be for non-motorized and non-mechanized activities." ▪ BC Parks should set a positive example by using a silent motor in its boat at Cold Fish Lake.

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▪ ***Access: Motorized***	▪ The author expressed deep discussed with BC Park policy restricting his/her access using off road vehicles (ORVs), floatplanes, and helicopters in Northern BC in general.
▪ ***Access: Motorized***	▪ I am generally pleased with the direction of the management plan to minimized motorized access into Spatsizi Plateau Wilderness Park and to limit motorized use on lakes within the Park."
▪ ***Access: Motorized***	▪ "My main concern is that all of this area is accessible to tax paying British Columbians, via snowmobile, ATV, or boat (power)… When I say accessible by snowmobile [and] ATV, I do not mean run ramped all over the country but on a trail system!"
▪ ***Access: Motorized***	▪ "We would like reassurance… that the rivers that feed into the Stikine will be zoned Natural Environment… As well, we would appreciate knowing that motorized use will not be restricted anymore than it already is…"
▪ ***Access: Motorized***	▪ Regarding p. 75 (MP 1.0): "Motorized access should remain the same or decrease." ▪ Regarding p 97 (MP 1.0): "No ATVs in the Stikine protected areas."
▪ ***Access: Motorized***	▪ Regarding section 8.2.3.3. (MP 1.0): "Agree that winter recreation should be non-motorized. Agree with ban on heli-skiing and restriction on snowmobile use."
▪ ***Access: Motorized***	▪ "The onus should… be on motorboat users to avoid conflicts with paddlers." ▪ "The special situations where winter recreation may be motorized (like the Klastline Trail) should be specified." ▪ "...more needs to be done than simply encouraging non-motorized users to travel when the chance of meeting motorboats is minimal."
▪ ***Access: Motorized on Rivers***	Page 82 ▪ The objective should be to minimize the number of motorboats, not to gradually increase them – especially in view of the recognized conflict with floatcraft on rivers
▪ ***Access: Road***	▪ "We particularly [support not creating] further road[ed] access into the parks, with the few exceptions for industrial development."
▪ ***Access: Road***	▪ In the introduction (Management Plan), there should be reference to the road through Mt. Edziza Park stated on page 79. ▪ P. 79 – "[It] states that the proposed Omineca/Stewart resource road comes close to the eastern boundary of Tatlatui Park and to the Metsantan addition. This is not so; it would follow the Sustut."
▪ ***Access: Road***	▪ In the introduction (Management Plan), there should be reference to the road through Mt. Edziza Park stated on page 79. ▪ P. 79 – "[It] states that the proposed Omineca/Stewart resource road comes close to the eastern boundary of Tatlatui Park and to the Metsantan addition. This is not so; it would follow the Sustut."
▪ ***Access: Road***	▪ "Regarding Mess Creek: This addition must be allowed to provide for road access to the billion ton Shaft Creek copper deposit." ▪ "Regarding Stikine Addition: this new addition (Kehlechoa area) should be changed to

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	allow road access…"
▪ ***Access: Road***	▪ "The Chckacheeta and Pitman Rivers, if ever there was a road built would wipe out the wilderness value of what it is known for today. Not to mention the high impact it would have on the guide territory."
▪ ***Access: Road***	▪ The author lobbies that the proposed Mount Edziza road be mentioned in the Introduction of the MP. ▪ "...the proposed Omincca/Stewart resource road comes close to the eastern boundary of Tatlatui Park and the Metsantan addition. This is not so; it would follow the Sustut."
▪ ***Access: Roads***	▪ Regarding Mt Edziza (8.2.1.2, MP 1.0): The last bullet should say road will be deactivated when use associated with mining ends."
▪ ***Air Access – Stikine Canyon***	8.2.1.2 – page 78 ▪ Strategy as described is weak & inconsistent with conservation initiative in other jurisdictions. ▪ Noise & prop-wash are often amplified in canyons. ▪ Red-listed Peregrine Falcons are known to nest on ledges in the Grand Canyon. ▪ Stikine Canyon Mountain Goats – due to their interesting escape terrain adaptations – may be considered a unique eco-type. ▪ Recommendations: o Immediately set conservative prescriptive standards (i.e.: no flights below the rim of the canyon & maintain a 2 km distance from wildlife habitat. o Flightseeing trips of the Grand Canyon should be curtailed immediately.
▪ ***Buckley Lake***	▪ "Why not continue to stock the lake? What are the effects on amphibians? The numbers of anglers/angling guides should be regulated."
▪ ***Burn Objectives***	▪ (p. 48, MP 1.0) "4th bullet down…need further clarification on this bullet. What is the intended management direction for burn projects: no hunting or wildlife viewing?"
▪ ***Coldfish Lake***	▪ "By allowing this purchase [Tommy Walker] without reference to the holding already in place the Government has neglected its judiciary responsibilities." ▪ "Parks must give any financial opportunity that arises from the site to the Iskut Band if they wish to have any credibility at all."
▪ ***Coldfish Lake***	▪ "[The Lake] was purchased by the (now) Nature Trust for the use of the public. It is essential that it remain affordable to the public to use it."
▪ ***Coldfish Lake***	▪ "I strongly support the maintenance of… [the] lake camp for its historic value and public use." ▪ "[The Lake] was purchased by the (now) Nature Trust for the use of the public. It is essential that it remain affordable to the public to use it."
▪ ***Coldfish Lake***	▪ I object to the proposal to transfer management of the Coldfish Lake Camp to guide outfitters. Nature Trust Purchased the camp with public funds for the future use of the public.

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▪ *Coldfish Lake*	▪ "We do not agree with the statement: 'non-commercial operation of facilities and Cold Fish Lake... this eliminates both the opportunity for the Tahltan Iskut Band and a commercial (tourism operators)."
▪ *Coldfish Lake*	▪ "...The park boat at [the lake] should be one of the 'perks' that the park host gets in return for the volunteer efforts provided."
▪ *Coldfish Lake*	▪ Regarding p. 86 (MP 1.0): "Coldfish lake should remain non-commercial. The preferred option is user fees or 'NGO' operation." ▪ Regarding p. 145 (MP 1.0): "Cold Lake cabin should be non-commercial."
▪ *Coldfish Lake*	▪ Regarding section 9.2.15 (MP 1.0): "Use of [the Coldfish Lake cabin] must remain affordable to the public".
▪ *Coldfish Lake*	▪ "We would only be in favour of a First Nations' partnership, no others. ▪ "Coldfish Lake was purchased by the (now) Nature Trust for the use of the public. It is essential that it remain affordable tot he public to use it."
▪ *Coldfish Lake*	8.2.2.2 – page 86 ▪ Recognize the prior occupation of this site by FN people; ▪ Assign a "first right of refusal" to Tahltan & Iskut FN as primary developers for any further projects [at Coldfish Lake].
▪ *Cultural Heritage Sites*	▪ "Minimizing impacts [from recreation] is not enough."
▪ *Danihue Pass trail*	▪ "If humans are [allowed to camp in the area] there will no longer be a rational for claiming that the Ecological Reserve represents an undisturbed ecosystem, and hence its value for research will be obviated."
▪ *Facilities*	▪ Page125, bullet 5 – in an effort to accommodate clients, there may be a need to construct some facilities at the far end of Tatlatui Lake for camping.
▪ *Facilities*	▪ "Assessing proposals for increased bed capacity of existing facilities, must involve a determination of carrying capacity consistent with maintaining the wilderness character of the protected Area."
▪ *Facilities*	▪ "have concerns that lodge/camps are 'locked' in forever. This is not acceptable for the guide-outfitting and wilderness tourism industry when carrying capacities have not yet been determined."
▪ *Facilities*	▪ Regarding new structures within guide areas: "I hope that Parks and Outfitters could sit down at the table on this issue and work out the solutions as they arrive."
▪ *Facilities*	▪ Regarding p 86 (MP 1.0): "Severely limit the construction of new structures."
▪ *Facilities*	▪ Regarding sections 9.2.9, 9.2.13, & 9.2.17 (MP 1.0): "Agree that new structures will not be considered for this area and that helicopter landings will be allowed only for management purposes."
▪ *Facilities*	▪ "Assessing proposals for increased bed capacity of existing facilities, must involve a determination of carrying capacity consistent with maintaining the wilderness character

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	of the Protected Area."
▪ *Facilities*	▪ There should be no new facilities on Tatlatui Lake. ▪ The status quo of Trygve Lake should be kept as is
▪ *First Nation*	▪ "Minimizing impacts [to cultural heritage sites] is not enough."
▪ *First Nations*	▪ In file # 0065, there is a map identifying effected Territories for the Management Area.
▪ *First Nations Section 6*	▪ It is essential that Park managers: ○ Recognize growing importance of FN as regional opinion leaders, investors & business managers; ○ Support FN planning participation with funding & technical assistance; ○ Develop (a.s.a.p.) a regional policy for consultation with Cassiar FN that works for those FN as well as for Parks managers; and ○ Complete provincial policy re: FN consultation (been going on for over a year → no results)
▪ *Forfur Lake*	▪ Regarding use of helicopter landing sites and fuel storage: The author wants "the mining company to base their operation out of the Stikine Lodge, instead of building temporary sites [at Forfur Lake]."
▪ *Fuel Management*	▪ "Only allowing 5 drums of fuel per location, this will create extra air traffic and costs." ▪ "Removal of all fuel for the winter, what about emergencies, what if I want to operated in the winter, or have the check the buildings, these are not logical operating parameters."
▪ *Fuel Storage*	▪ We advocate "guideline[s] on storage and handling of fuel" but you must remember we are remote by many miles and practical common sense must prevail in some cases"
▪ *Fuel Storage*	▪ The proposed fuel management plans are extremely excess and very impractical. By limiting the amount of fuel that can be in one spot .... You create extra and unnecessary aircraft traffic to maintain this minimum inventory. ▪ Not having fuel for the winter is impractical and dangerous.
▪ *General*	▪ The Ecological Reserves Act does not allow: "recreational and commercial travel, including hiking and horses". ▪ "We were pleased to see such a strong emphases on conservation issues in the [Management Plan 1.0]."
▪ *General*	▪ The term: "limits of acceptable change (MP p. 140) "suggests an assumption that commercial use will [increase]... prior determination of carrying capacity [would be a more productive activity]"
▪ *General*	▪ The author implies: All other protected areas should be assessed for horse impacts.

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▪ ***General: Policy***	▪ "I am supportive of your (Joyce Murray, Minister of WLAP) statements that there would be no commercialized use and that recreation within the reserve will not be encouraged." ▪ "I am… concerned to here that proposals for guided commercial tours in the [Ecological] Reserve are being considered." ▪ "When this park (Spatsizi Plateau) was created, it was zoned as 'wilderness'… A park where people could go to enjoy a truly "wilderness experience. [Therefore,] I am generally pleased that management will plan to minimized motorized access…"
▪ ***General: Policy***	▪ "I would [like to] humbly suggest… that the place to encourage commercial eco-tourism is on the broader land base currently designated as 'Provincial Forest'." ▪ Regarding Ecological Reserves: I also urge you to pursue a policy of gradually phasing out all permits for grazing and horse access in the reserves, as domestic ungulates continue to be a source of ecological degradation throughout the Province."
▪ ***General: Policy***	▪ "As a Guide Outfitter, possessing a Certificate granting tenure on my area, I feel that legally my certificate should be treated differently than a licence of Permit." ▪ "Do not let the wishes of a few preservationists that might visit the park one or two times in their life, overrule and dictate what we have to live with everyday."
▪ ***General: Policy***	▪ "It is… my understanding that this plan is not the direction that our current government wants to take."
▪ ***General: Policy***	▪ "I would like to see some assurance that the guide outfitting industry will continue to exist as they have in the past and grow within parks in the future, instead of being phased out through expanded park boundaries with more restriction and regulation."
▪ ***General: Policy***	▪ "To ensure compatibility between conservation and recreation it is extremely desirable that carrying capacity objectives be established, and criteria developed for measuring carrying capacity for different activities." ▪ "The Statement: 'Any increase in commercial recreation activities will incrementally so as not to exceed limits of acceptable change' (p. 140, MP 1.0) suggests an assumption that gradual increase will change perceptions of what acceptable change looks like, so that the bar is bit by bit pushed up to allow for more commercial recreation." ▪ "The notion of 'balance' between commercial and public recreation also raises some alarm." If this means that there will be equal numbers of tourists as local public users – this is unacceptable. ▪ Wants the planning process to be as "transparent as possible".
▪ ***General: Policy***	▪ "The timeframe is not acceptable to allow time for consolation with other in the industry including NGOs, First Nations, stakeholders, and the public."
▪ ***General: Policy***	▪ "I would not like to see more commercial recreation in the protected areas, especially within Gladys Lake Ecological Reserve." ▪ "I… also prefer not to see mining occurring in the Mt. Edziza resource Management zone."
▪ ***General: Policy***	▪ "Having local factors discourage mineral exploration and development in northern BC

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	was not a recommendation of the LRMP."
▪ ***General: Policy***	▪ "I am... happy... with the direction of the management plan... to minimize motorized access into Spatsizi Plateau Wilderness Park and... on [all other] lakes."
▪ ***Gladys Lake ER***	▪ "What is wanted… is an area of low to minimal human impact… This does not require ecological reserve status but more appropriately a no-hunting, entry by permit only zone." ▪ "It is unjust to withdraw the economic potential that this area has from that segment of society that needs it most."
▪ ***Gladys Lake ER***	▪ "If commercial and recreational uses are allowed and encouraged here, other more vulnerable Ecological Reserves will suffer." ▪ What happens here will act as encouragement, by example, for future miss-use of other ecological reserves.
▪ ***Gladys Lake ER***	▪ "If ever any commercial enterprise is approved for the lake… we want it strictly limited in numbers of trips, adhering to ecological reserve principles, and run by the hands of Tahltan and/or Iskut operators." ▪ "Gladys Lake needs to remain an ecological reserve with no commercial activities." ▪ Recreational activities should not be encouraged in order to keep use levels low. (Including non-consumptive) ▪ "Airplane Valley should continue to be available to day hikers." ▪ P. 90 (Management Plan 1.0) – "There should be no commercial use of the ecological reserve, other than limited travel specified here."
▪ ***Gladys Lake ER***	▪ "[I is extremely disturbing] that the Ministry of WALP is even entertaining a proposal for guided educational tours, for profit, into the ecological reserve… [It] goes against the mandate of your ministry…" ▪ Gladys Lake is one of the foremost jewels in BC's ecological reserve system and very worthy of protection.
▪ ***Gladys lake ER***	▪ (Using Gladys Lake as a recreation travel corridor through Danihue Pass/Eaglenest Creek, and Ice Box Canyon Trails) "I am not in opposition to this use of the reserve." ▪ (Allowing commercial use in Gladys Lake ER): "I am opposed to [the] shift in policy regarding ecological reserves… I believe that the educational component [in] this proposal is a front to allow commercial use of the ecological reserve." ▪ "Surely the province can maintain this area commercial free to protect [Stone's Sheep] in it's worldwide stronghold." ▪ The Commercial "tenures were entered into, and infrastructure constructed, with the full knowledge that the ecological reserve would be off-limits to their commercial activities."
▪ ***Gladys Lake ER***	▪ "Allowing commercial activities of any sort (even supposedly 'educational' activates, which area really just a glorified tours would establish a dangerous precedent."

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▪ ***Gladys Lake ER***	▪ "I do not agree with the proposal that has been floated since this Plan was circulated to the public, that the Ecological Reserve be opened up for commercially run nature education tours."
▪ ***Gladys Lake ER***	▪ "Airplane Valley should continue to be available to day hikers." ▪ "It is important that numbers (visitors) remain small and visitors infrequent to ensure that the values of the eco-reserve are maintained over time."
▪ ***Gladys Lake ER***	▪ I do not support commercial use in the eco-reserve. ▪ I believe that eco-reserves are not "intended for promotion of outdoor recreation use." ▪ I do not support the development of guided educational hiking tours. ▪ "Why can't these educational tours be conducted in the vast expanse (696,000ha) of the surrounding park?" ▪ "Regularly scheduled 'educational tours' through the area will disturb the wildlife, which have become accustomed to minimal disturbance since the creation of the reserve and hence are not as easily spooked. [Perhaps] the reason someone is so keen to go into the reserve is because the animals are easier to view and the reason they are easier to view there is because thy are not hunted, then perhaps we should ban hunting throughout Spatsizi Park." ▪ It is virtually impossible to get through the reserve, or even into the heart of the reserve, in one day on foot." ▪ "I expect [extensive site impacts] will occur in this area even if regular hiking tours, and not the horse tours, are conducted." ▪ "[The terrain found while hiking] from Danihue Pass to Gladys Lake consists of seepage slopes on both sides. Even the most careful hiker would have difficulty in keeping their feet dry. Many hikers will turn it into a mud route." ▪ The most offensive part of this proposal (educational tours) is the idea of letting a commercial organization run tours for profit within a eco-reserve." ▪ "Waterfall Creek is on the opposite side of the reserve to the side where the boundary was extended (1981).
▪ ***Gladys Lake ER***	▪ Strongly oppose allowing commercial activities, including hunting through the guide outfitters in ecological reserves. ▪ "To allow any commercial activity would destroy the reserves integrity and any future scientific use." ▪ "The ecological reserves in our province must be maintained as the unique, pristine and untouched areas they were originally established for."

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▪ ***Gladys Lake ER***	▪ Gladys Lake should remain in the Ecological Reserve designation, because it is highly valued by researchers. ▪ "Gladys Lake was crucial as it provided the natural, un-hunted population from which we were able to obtain information crucial to successful conservation." The current reduction of research projects in the area is because of a downturn in funds available for wildlife research in general, not the diminishment of the quality of Gladys Lake as an outdoor laboratory. ▪ "The request to abolish the Gladys Lake Ecological Reserve is in error. It must not be agreed to."
▪ ***Gladys Lake ER***	▪ We do not support any commercialization within Gladys Lake or the Ecological Reserve.
▪ ***Gladys Lake ER***	▪ The author was opposed to "…a new proposal… that would permit ecological tours within the ER", because it would set a precedent for commercial use, tours will create negative environmental impacts, and there are limited resources at BC Parks to monitor and/or enforce regulations.
▪ ***Gladys Lake ER***	▪ "I wish to congratulate you and your staff (BC Parks) for your strong position with regard to maintaining the integrity of the Gladys Lake ER." ▪ "I am… supportive of your statements that there will be no commercialized use and that recreation within the reserve will not be encouraged."
▪ ***Gladys Lake ER***	▪ "The major concern is the reference to the restriction of commercial use within the ER." ▪ "feel that non-consumptive commercial guided hiking nature tours should be permitted with the Ecological Reserve under a permit basis." ▪ "Recognize historic use of trails (grandfather principle)."
▪ ***Gladys Lake ER***	▪ "I do not understand the apparent policy against guided non-consumptive activities in the Ecological Reserve… I do not agree with the general direction of 'discouraging recreation use (8.2.2.2)' of the ecological reserve." ▪ "Since being established more than 25 years ago, the ecological reserve has never been used for its intended purpose (large mammal research)… I believe that the reserve visitors [(commercial)] could be recruited to provide some reasonably consistent and useful data…"
▪ ***Gladys Lake ER***	▪ "I congratulate you... for you strong position with regard to maintaining the integrity of the [ER]. I... support the statements [stating]... no commercialized use and that recreation... will not be encouraged." ▪ Regarding Danihue Pass, Eaglenest Trail, Waterfall Trail, Ice Box Trail, Cullivan Trails, and Paramount Trail: "...We believe that [WALP] has not recognized our grandfathered rights to passage of guided horseback and hiking tours." ▪ Regarding Guided Educational Tours: "The 'open-bid' process does not address the grandfathered principle we argue." ▪ "We propose the Gladys Lake ER to be amended to the height of land which will eliminate the horseback trails that weave in/out of the reserve."
▪ ***Gladys Lake***	▪ Regarding p. 90 (MP 1.0): "Gladys Lake should be labelled as a corridor via the

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ER	designated routs with a statement that this should not be a destination." ▪ Regarding p 119 (MP 1.0): "Work to remove Gladys lake cabin. It is not in keeping with an ER."
▪ ***Gladys Lake ER***	▪ "No commercial use of Gladys Lake ER (other than the limited travel along the trail that has been agreed upon)..." ▪ "The federation of BC Naturalists is opposed to opening up Gladys Lake Reserve to commercial guided tours and we believe other areas of the park are equally attractive for guided nature tours."
▪ ***Gladys Lake ER***	▪ "Gladys Lake needs to remain an ecological reserve with no commercial activities."
▪ ***Gladys Lake ER***	▪ "Airplane Valley should continue to be available to day hikers."
▪ ***Gladys Lake ER***	▪ The author is against any commercial activities occurring within the Gladys Lake ER.
▪ ***Gladys Lake ER***	▪ The boundary of the GLER should be redefined so that established trails can be utilized by not only the established users, but by all users
▪ ***Gladys Lake ER***	▪ Human disturbance must be minimized ▪ Human traffic must be limited to 'unorganized walkers' with no allowance for commercial / organized tours
▪ ***Habitat***	Re: Sec. 7.4.4 – page 37 ▪ Before parks managers undertake habitat alteration to attain the requested wildlife values, they should consider: ▪ Reduce hunting harvest (for non-FN) in the habitat in question; ▪ Habitat alterations and hunting reductions in areas adjacent to the park; and ▪ Further research on the effects of habitat alteration. 7.5.2.8 – page 48 ▪ Objectives and actions → ambiguous language regarding the uses of habitat manipulation occurs, and should be eliminated. 7.5.4.1 – page 61 ▪ "...the information base that guides their management should include field research that considers meta-populations of species as a context for research." ▪ Stikine Country Parks managers should: o Quickly initiate discussions with wildlife and habitat managers, northern FN & conservation orgs.....that will place proposed caribou research projects within a broader or continental context; o Proceed with identifying further research needs, and planning for recovery as required by the Species at Risk Act. o There appears to be little or no management direction of the red-listed Peregrine Falcon and would benefit from:

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	o Identification of nesting habitat within Stikine country and a seasonal ban on helicopter or float plane flights within 1,000 metres of identified habitat; an o Increased vigilance for the theft of Peregrine Falcons from nest. 7.7.1 – page 72 ▪ As the LRMP concluded, much research needs to be done. ▪ …partnerships are the only possible means through which research projects in the Stikine could proceed……Potential partners include: o Tahltan & Iskut FN; o UNBC (& other schools) o Conservation groups working in the north o Business & trade associations o Federal & Provincial agencies ▪ An entrepreneurial approach to field research projects……..would build the knowledge base and create business opportunities…. ▪ Establish a science and technical panel to manage process and make key decisions; o Identifying and ranking of research needs; o Locating funding & technical resources; and o Reviewing proposals and publishing of results.
▪ *Happy Lake*	▪ (p. 65, MP 1.0): "Rainbows are found in Happy Lake."
▪ *Hunting*	▪ "I… have concerns about your lack of long-term commitment to phase out hunting in Spatsizi Park." (Opposed)
▪ *Hunting*	▪ "On page 55 (MP 1.0)… percentages for the annual allowable harvest of wildlife [are listed]. These numbers should not be in the Plan… [because populations change from year to year]."
▪ *Hunting*	▪ "Our biggest disappointment with the plan is that there is not long term commitment to phase out hunting in Spatsizi Park."
▪ *Hunting*	▪ Regarding Sustenance Hunting (p. 54, MP 1.0): "Hunting is important for sustenance for First Nations and referred only as a recreation activity for BC Resident, please note that BC residents hunt for sustenance as well."
▪ *Hunting*	▪ "Hunting must not negatively impact wildlife populations... [nor] detract or deteriorate other recreational uses."
▪ *Hunting*	▪ Regarding 'population management': The author is against any 'culling' of predators. ▪ "…Do not diminish wildlife viewing opportunities sought by non-hunters." ▪ "There needs to be a section on hunting in the context of a recreation activity under this heading, in order to ensure that it is balanced with other recreation activities deemed to be appropriate."

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▪ ***Hyland Post***	▪ "Habitat Manipulation (p. 37, MP 1.0) should be used to maintain wildlife population regardless of the type of disturbance. The Hyland Post burn project should be completed and it is not mentioned in the document." ▪ (p. 83, MP 1.0): Regarding the river closure on the Spatsizi above Hyland Post: "would like to see an opportunity for appropriate trail maintenance and recreational activity…"
▪ ***Kakidda Lakes***	▪ (p. 107, MP 1.0) An opportunity for an angling guide and some type of lodge structure should be considered for this area…"
▪ ***Kakiddi Lakes Area***	▪ "Floatplanes should not be used for day trips to any water bodies where the management emphasis is on providing a wilderness experience."
▪ ***Klastline Area***	▪ "A high quality wilderness "A high quality wilderness experience may not be achievable on the [trail] with snowmobile use."
▪ ***Management Plan 1.0***	▪ P. 49 – Calls for expansion of information on which animals were radio-collared by the Spatsizi Ass. Bio. Res. ▪ P. 78 (Cold Fish Lake) – regarding phrase: "maintain the deactivated status…", says: "Is this the responsibility of BC Parks? If deactivated how is still used by private planes?" ▪ P. 78 (Metsantan Village) – Define Manage: "Cutback? Eliminate? Monitor?" ▪ "…The plan is so ambitious with so much to do that it would be good to have some idea of what will / could be done in the first 2 years, the next 5, the next 10 etc."
▪ ***Management Plan 1.0***	▪ "I generally support the Draft 1.0 for Stikine Country Protected Area… especially the emphasis on ecological integrity…"
▪ ***Management Plan 1.0***	▪ "Your final draft plan is generally very constructive. It is not all I had hoped for but overall acceptable." ▪ "Statements like: 'Any increase in commercial activities will occur incrementally so as not to exceed limits of acceptable change really worry me about future developments in Spatsizi."
▪ ***Management Plan 1.0***	▪ P. 125, Key Considerations and Actions, bullet 2 - Please do not remove this clause. "The reason that anyone would want this removed is to [reduce the governing authority's] power to maintain the pristine wilderness [quality of the area]
▪ ***Management Plan 1.0***	▪ "The conservation objectives of the Plan are commendable."
▪ ***Management Plan 1.0***	▪ "It may not contain everything that we had hoped for, but I think we can live with it." ▪ Statements such as: 'Any increase in commercial activities will occur incrementally so as not to exceed limits of acceptable change', still troubles us." We feel that you will act against public opinion bit by bit.
▪ ***Management Plan 1.0***	▪ "I am seriously distressed by the changes which have been published in the Draft (1.0)." - Regarding floatplane access.
▪ ***Management Plan 1.0***	▪ "Section 8 starts out with ' A Place For People To Enjoy'. I feel if this plan is accepted as is, that these Areas will be enjoyed by only 'The Select Few'."

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▪ ***Management Plan 1.0***	▪ "The Iskut-Stikine LRMP suggests several working committees and monitoring committees. The Management Plan needs to reflect these recommendations and establish a stakeholder working committee." ▪ "…Reference was made to 'inadequate fish harvest reports, lack of big game harvest reports, lack of research/inventory etc'… The public should know what inventory is available and submitted at present." ▪ The author indicated that 'wilderness tourism values' should be included in the vision statement and on page 91 under the heading Recreation Values. ▪ Regarding p. 55, 2nd par. (starting line 3): "This entire paragraph is [has?] loose wording are [and?] makes the hunting [in the area?] look poorly managed." ▪ Regarding the Wilderness Recreation Zone (p.100, MP 1.0): "Is this [zone] contradictory to habitat manipulation and predator control?" ▪ (p. 113, MP 1.0) "Frog Lake is out of the Kehlechoa area. This needs to be looked at further to determine the boundaries." ▪ (p. 119, MP 1.0) Chuckichida Lake "has two separate cabins on it, not one." ▪ "We believe that there is no other place in Northern BC that has as much inventory and research conducted. We believe that private/First Nations and gov't partnerships should be allowed further continue research. This should be mentioned in the report."
▪ ***Management Plan 1.0***	▪ Regarding 'Introduction', 1st par.: "…Why is the Latin name provided for coyotes, but not for any other species?"
▪ ***Management Plan 1.0***	▪ "I approve of the plan's emphasis on conservation and the decision, in general, to not expand recreation beyond current levels." Including: floatplane and helicopter access, and all other forms of motorized access. ▪ "I like the options presented for the continuing operation of Coldfish Camp…" ▪ "Regarding motorboats, I am glad to see that maintaining a wilderness experience is a priority." ▪ "Regarding commercial recreation… I am glad to see that the list of potential activities are mostly low impact activities that do not require facilities…"
▪ ***Management Plan 1.0***	▪ "Although the document under consideration is billed as a 'plan', many of the inventory monitoring, and research activities identified are implied as being 'subject to funding'. In that sense, the entire plan could be headed with the phrase, 'in a perfect world, this is what we would do'." ▪ I would think that the implications and applications of [the Recreation Stewardship Panel] recommendations and evolving government policy to management of the Stikine Country Protected Areas need to be addressed up front in this plan."

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▪ *Management Plan 1.0*	▪ Regarding the 'Background Summary' (1.2): "I am please to see the original Spatsizi Park management direction… up front in this manner." ▪ Regarding the 'Management Issues' (1.4): "How will all of those listed be addressed? Who will do them, at what cost, and where will the funding come from?" ▪ Regarding the 'Vision Statement' (3.2): "Although highly idealistic… this statement is generally supportable at the conceptual level." ▪ Regarding 'Managing Ecosystems' (4.2): "I don't think you have… knowledge for the Edziza population [(caribou)]… therefore your definition of the 'Mt Edziza Greater Ecosystem' is likely a tenuous one." ▪ Regarding 'Managing Ecosystems… Broader Landscape' (4.3): I do not think that BC Parks is well-positions to fully carry the ball…[they will] need strong, working partnerships [to succeed with it's mandate]." ▪ Regarding 'Human Influences' (7.4.3): "I do not see the need for the distinction between 'recreational users' and 'commercial operators'." ▪ Regarding 'Habitat Manipulation' (7.4.4., p. 37): "This item has considerable potential for confusion and misinterpretation. ▪ Regarding 'Wildlife' (i7.5): "…A number of statements presented as 'fact' are actually either hypotheses or opinions." ▪ Regarding "Habitat Delineation' (7.5.5.8, p. 49): "…Observations are contained in over 1500 pages of assorted field notes and progress reports, and would require a fir amount o time and effort to extract…but they are there." ▪ Regarding 'Population Management' (7.5.3): "Until or unless a reliable source of funding to provide for regular, full-scale population surveys is identified… managers will need to show some resourcefulness in collecting and using others kinds of information." ▪ Regarding 'Species at Risk' (7.5.4, 2nd sentence): "…extreme interpretations for [the used term] 'undisturbed', are often used by those with non-use agendas." ▪ Regarding 'Scientific Research and Education' (7.7): "I am pleased to see that ([BC Parks is fostering and encouraging research]) stated here." ▪ Regarding 'Managing Recreational Opportunities, Introduction' (8.1): The 'commercial' label is more political than descriptive…" (And in the 3rd par.) "The matter of 'visitor impact on other visitors' is purely subjective."
▪ *Management Plan 1.0*	▪ "I have read the sections relevant to Tatlatui Park and didn't note anything that caused me alarm."
▪ *Management Plan 1.0*	▪ "Page 104… the 'drop off pick up' rule would not be workable…[because someone might fly in for a week trip, then leave." ▪ Table 5: Stikine headwaters, Hotlesklwa, Ella, Klahowya, Happy Lakes, Chukachida, Chapea Lake, and Spatsizi River should include floatplanes as an existing motorized use.
▪ *Management Plan 1.0*	▪ "In general I support the plan as laid out. This letter reinforces my support for the conservation aspect of the plan." ▪ Regarding p. 95: "The phrase: 'opportunities to increase' should read: 'an increase may

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	be allowed'." ▪ Regarding p. 121: "'The phrase: 'recreational opportunities may be developed' should read 'may be allowed'." ▪ Regarding p 109 (MP 1.0): "Define 'small and rustic'... 10 beds is small relative to a lodge. To me 2 person is small. Rustic to me is three pieces of 1/4 inch plywood on a pole frame." ▪ Regarding p 149 (MP 1.0): "The precautionary principle. The reference to Akcakaya et al. 1997 is not given in the reference section." ▪ Regarding p. 149 (MP 1.0): "Appell, D. 2001. The new Uncertainty principle. Scientific American, January, pp. 18-19. provides a reference back to a current version of the principle. ▪ "On the map which shows cabins. The colours for public and guide cabins is the same. It is not possible to tell if either dominates and where they are located."
▪ *Management Plan 1.0*	▪ Regarding section 11.1.1 and the statement: "Any increase in commercial recreation..." (MP 1.0): The author wants to know: How will this be monitored? and feels that carrying capacities should be defined.
▪ *Management Plan 1.0*	▪ "The draft plan generally meets our ideas of 'wilderness' for this day and area." ▪ Regarding p 91: "Skiing... would be better qualified as 'ski-touring' so as not to imply that downhill ski facilities are appropriate." ▪ Regarding p. 140: "The statement: 'any increase... will occur incrementally...' suggests an assumption that gradual increase will change perceptions of what acceptable change looks lake, so that the bar is bet by but pushed up to allow for more commercial recreation." ▪ Regarding p. 140: "The notion of 'balance' between commercial and public recreation... raises some alarm. If it means that the goal is to create equal numbers of [tourists]... then this reduces considerably the park's carrying capacity for public users." ▪ Regarding p. 143: Is there anyone in WALP to monitor commercial grazing?
▪ *Metsantan*	▪ "Regarding [this zone], this addition… should be removed in its entirety except for the old town/campsite themselves…"
▪ *Monitoring*	▪ "Is there going to be anyone to the MOF to [monitor the grazing leases in the park areas]." (p. 143 Management Plan)
▪ *Overall*	▪ "…this is, for the most part, an excellent draft management plan." ▪ "…we conservationists will work [even] more closely with parks planners to secure a future for intact wilderness ecosystems." ▪ Boundary issues are multiple and expanding……. ▪ The notion of "balance" between commercial and public recreation raises some alarm. ▪ An ecosystem-based approach to parks management will help us find true balance.
▪ *Overall*	▪ "….[your Ministry] has conducted an excellent planning process for the Management Plan for Stikine Country Protected Areas,…"

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▪ ***Planning Process***	▪ This process was not transparent, nor were participants given equal weight in the deliberations.
▪ ***Planning Process***	▪ Felt there was lack of proper consultation regarding plane access.
▪ ***Planning Process***	▪ "I was not informed of this expansion (Mess Creek addition) of the park."
▪ ***Planning Process***	▪ The author of letter 0021 expressed deep disapproval with the entire planning process. The author believes that BC Parks has presented a one-sided argument favouring arguments from: "…save The World Organization[s]. [BC Park's] presentation, like so many others in the past, outlines one side of the issue and is corrupt and tainted." ▪ The author accused BC Parks of using false information as propaganda to sway a naive audience toward their political agendas. "A good example of the Parks Branch's scare tactics is your references to the Bull Trout and Dolly Varden (refer to 7.6.2 p. 67). There have been no studies on these species in northern BC."
▪ ***Planning Process***	▪ "Concern[ed] that BC Parks Management has arbitrarily overruled the consultation process and accords reached in the preparation of the Draft management Plan for the Stikine Parks and Protected Areas." ▪ "…To delete the May 28/02 agreement in principle, form Parks considered proposal, raises serious doubts about the consultation process and about the good faith of BC Parks in that process."
▪ ***Planning Process***	▪ "I have serious concerns about unilateral reversal at this late date, of the accords reached with eh BC Floatplane association representatives during meetings with you over the last 18 months."
▪ ***Planning Process***	▪ "The Protocol Agreements reached… over a period of one and a half years have been summarily ignored by BC Parks in the new Draft, and replaced with proposals containing impractical, totally inequitable and discriminatory regulations." ▪ "We urge BC Parks to reconsider their actions and to rebuild the heretofore cooperative relationship between us."
▪ ***Planning process***	▪ The author was concerned that BC Parks has met with apposing opinion groups and have already made management decisions regarding the Stikine without proper consultation and determination of what the "public really care[s] about."
▪ ***Planning Process***	▪ "I urge you to reconsider, as a the draft plan appears to ignore most of the agreements that were developed with the BCFA. It also calls into question the consultation process, is impractical and unsafe."
▪ ***Planning Process***	▪ "I feel this process was not well publicized to those who really utilize these areas." ▪ "Is there any chance of an extension for further comments..?"
▪ ***Planning Process***	▪ "The six week review period circumscribing the Christmas season is not must time."
▪ ***Planning Process***	▪ The author feels that BC Parks has not been consulting in good faith.
▪ ***Planning***	▪ The author expressed displeasure with the negotiation process between the flying

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Process	public and BC Parks.
▪ ***Planning Process***	▪ The author is disappointed with the negotiating process between BC Parks and the BCFA.
▪ ***Planning Process***	▪ Regarding Gladys Lake ER: "We are troubled that [WLAP]... consulted... [with] NGOs [such as] Friends of Ecological Reserves, BC Naturalists, and Sierra Club, regarding our proposal."
▪ ***Planning Process***	▪ Regarding floatplanes: "I would appreciate being put on a mailing list and given the opportunity to provide input on this subject in advance of any finalization of ratification."
▪ ***Planning Process***	▪ "The Federation of BC Naturalists would like to suggest that you consider establishing an Advisory Committee, so that proposals could be vetted in a... public manner."
▪ ***Recreation***	▪ "There needs to be a section on hunting in the context of a recreational activity..." ▪ "The management plan considers hunting only in the context of 'population management', where it escapes any consideration of capability with other park use activities, such as hiking and recreation travel by watercraft. " Since hunting is not in the 'Recreation' section, will 'recreation objectives' apply to it? ▪ "It is very important that [hunting] be managed in such a way that it does not conflict with the interests of the 'non-consumptive' backcountry park users... ▪ "No mountain biking ever!" Not in favour of motorized and/or mechanized travel. ▪ P. 91 (Management Plan 1.0) - 'Skiing' needs to be called 'Ski touring' "so as not to imply that downhill ski facilities are appropriate."
▪ ***Recreation***	▪ "There needs to be a section on hunting in the context of a recreational activity..." ▪ P. 91 (Management Plan 1.0) - 'Skiing' needs to be called 'Ski touring' "so as not to imply that downhill ski facilities are appropriate." ▪ "Mountain biking is not appropriate for these parks."
▪ ***Recreation***	▪ (p. 92, MP 1.0) The group sizes stated in the plan are too low (4-6) "...a family of 10 or 12 may want to partake in a group hike."
▪ ***Recreation***	▪ "Any increased use must be for non-motorized and non-mechanized activities..." ▪ "Mountain biking is not appropriate for these parks." ▪ "A high quality wilderness experience may not be achievable on the Klastline Trail with snowmobile use."
▪ ***Recreation***	8.2.3 ▪ There needs to be a section on hunting by non-first nation hunters, or recreational hunting – as a recreational activity Winter recreation – page 95 ▪ The ban on heli-skiing is appropriate 8.2.3.5 – other recreational uses ▪ Mountain biking is not appropriate for these parks. There are numerous non-sensitive

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	front-country sites for mountain bikers.
▪ ***Recreation: Angling***	▪ Regarding Benchmarks (p. 69, MP 1.0): "Is the intention to make several waters non-angling?" ▪ (p. 70, 4th bullet, MP 1.0): "Why would you consider new angling guides when you have determined that our carrying capacity has reached its limit?" ▪ Regarding the Tatlatui Area (p. 125-126, MP 1.0): "Further clarification needs to be addressed about angling zones, water bodies…"
▪ ***Recreation: Camping***	▪ Disagree with following statement from Draft Plan (1.0): "Allow camping within the ecological reserve only within 100m of the Danihue pass and Eaglenest Creek Trail."
▪ ***Recreation: Camping***	▪ P. 92 (Management Plan 1.0) – "[Please] keep campsites to a minimum."
▪ ***Recreation: Camping***	▪ "Keep [campsites] to a minimum."
▪ ***Recreation: Carrying Capacity***	▪ "...our main concern is... the seemingling open ended invitation to increase use, without first establishing carrying capacity." ▪ Regarding p 94 (MP 1.0): "What is carrying capacity for this wilderness paddling experience (Commercial recreation)?" ▪ Regarding p. 142 (MP 1.0): "Disagree with proposed increased use on Stikine River system without carrying capacity being agreed on."
▪ ***Recreation: Carrying Capacity***	▪ Regarding p 94 (MP 1.0): "What is carrying capacity for this wilderness paddling experience (Commercial recreation)?" ▪ Regarding p. 142 (MP 1.0): "Disagree with proposed increased use on Stikine River system without carrying capacity being agreed on."
▪ ***Recreation: Carrying Capacity***	▪ Regarding Air Access: "...there needs to be a carrying capacity determined for each water body or other landing area."
▪ ***Recreation: Commercial***	▪ If the guide-outfitter is still ferrying fishing clients back and forth from Laslui to Tuaton and other neighbouring lakes several times a day as was once the case, this is incompatible with a 'wilderness experience' sought by others and should be discontinued." ▪ "It is noted (1st par., p. 139, MP 1.0) , that commercial permits have been issued for jet boating. This activity should not be encouraged."
▪ ***Recreation: Commercial***	▪ "Commercial uses which claim to be 'minimum impact' should be re-evaluated, year after year, to determine whether the impacts actually occurring are acceptable."
▪ ***Recreation: Commercial***	▪ Regarding p 140, bottom of page, 1st bullet (MP 1.0): "The primary objective of this park is protection not commercialization... I suggest the follow alternative: 'Contribute to the sound and sustainable economic growth of the region through the management of the direct contribution to the economy from appropriate (approved?) commercial recreational services and indirectly through the attraction of residents and non-commercial tourists to this area in particular and BC in general'."
▪ ***Recreation: Commercial***	▪ Regarding p. 139, section 11.1 (MP 1.0): "Disagree with issuing commercial permits for

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	jet boating."
▪ ***Recreation: Commercial***	▪ "In is noted... that commercial permits have been issued for jet boating. This activity should not be encouraged." ▪ "Before there is any increase in tenures, BC Parks must have a determination of carrying capacity."
▪ ***Recreation: commercial***	▪ Regarding the river corridor from the Upper Stikine to highway 37: "I have... major concerns for... [the] expansion of commercial outfits, motorized or not." - the author is worried about crowding for public versus commercial users.
▪ ***Recreation: Commercial***	Section 11.1 ▪ It is appropriate that the draft management plan support the LRMP in setting the highest priority on finding economic opportunities for regionally-based entrepreneurs. 11.1.1 ▪ The GMD here makes an assumption that "incremental increase" is acceptable. Perhaps re-word the GMD to read: "Any increase in commercial recreation activities will occur incrementally, to enable adaptive management strategies such as studies and moratoria, and thus, not allow commercial recreation activities to exceed limits of acceptable change".
▪ ***Recreation: Horse***	▪ "[Please] maintain the ban on non-equine pack animals."
▪ ***Recreation: Horse***	▪ "Horses should continue to be regulated by the regional range offices on the amount of forage available... using a [reliable] source"
▪ ***Recreation: Horse***	▪ "It is important to maintain the ban on non-equine pack animals, i.e. llamas." ▪ "Horse riding through the reserve must not be allowed, with the exception of the trails already sanctioned for transit with horses."
▪ ***Recreation: Horse***	▪ On page 96 (MP 1.0), "please mention, 'provide high quality guided horse trips'".
▪ ***Recreation: Horse Use***	▪ "It is important to maintain the ban on non-equine pack animals - i.e. llamas..."
▪ ***Recreation: Winter***	▪ "There is no reason why dog-sledding should be considered incompatible. It is non-mechanized and low impact." ▪ The special situations where winter recreation may be motorized (like the Klastline Trail) should be specified."
▪ ***Recreation: Winter***	▪ "A high quality wilderness experience may not be achievable on the Klastline Trail, with snowmobile use."
▪ ***Recreation: Winter***	▪ "Dogsledding was a historic means of travel for First Nation People. An opportunity for front and backcountry dog sledding tours should be considered subject to an impact assessment study and further research."
▪ ***Recreation: Winter***	▪ "I see no reason that certain areas of the Stikine Country could not be set aside for snowmobiling. Of course this would have to be areas where there is no impact on wildlife."

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▪ ***Recreation: Winter***	▪ Regarding p. 84 (MP 1.0): "No increase in snowmobile access at all."
▪ ***Recreation: Winter***	▪ "There is no reason why dog-sledding should be considered incompatible."
▪ ***Spiritual Values***	▪ "These values include the rights of an animals, trees, ecosystems, etcetera to exist in and for themselves.
▪ ***Spiritual Values***	▪ It is appropriate to recognise that spiritual values are important to many people, and to respect them. However, spiritual values are very personal, and I doubt that BC Parks should try and list spiritual values (bullet #1, p. 99) as this might have the result of trivialising something that is intangible and immeasurable."
▪ ***Spiritual Values***	▪ "This is a potentially thorny issue because it relates to very individual and personal feelings about things."
▪ ***Spiritual Values***	▪ "These values include the rights of an animals, trees, ecosystems, etcetera to exist in and for themselves."
▪ ***Stikine Grand Canyon***	▪ Will it be necessary to build trails through the special management zone to access viewing opportunities?
▪ ***Stikine Grand Canyon***	▪ A requirement for an [access] permit would allow BC Parks to assess the competence and experience for the applicant." ▪ Will it be necessary to build trails through the Special Feature zone to access viewing opportunities?
▪ ***Stikine Grand Canyon***	▪ "...will it... be necessary to construct trails through the Special Feature Zone?"
▪ ***Tatlatui Park***	▪ "I strongly support the present position taken in the Draft which does not allow for new Structures if this is taken to mean camps or substantive increase in bed capacity." ▪ "To remain competitive in a world market we must have the opportunity to, from time to time, upgrade facilities at sites which are already alienated."
▪ ***Trails***	▪ "[The] impacts of the horse trails between Bug Lake and Cold Fish Lake and along the shore of Cold Fish Lake [are] unacceptable."
▪ ***Trails***	▪ "[The] impacts of the horse trails between Bug Lake and Cold Fish Lake and along the shore of Cold Fish Lake [are] unacceptable."
▪ ***Trails***	▪ "The trails in the PA are considered Class IV & V... Are they not intended for horse use as well?
▪ ***Trails***	▪ Regarding (8.2.2.3, MP 1.0): What about the Kluachon-McEwen Creek Trail accessing Spatsizi from Iskut?
▪ ***Trails, routes & campsites***	8.2.2.3 – page 90 ▪ Airplane Valley should continue to be available to day hikers ▪ There should be no commercial use of the ecological reserve, other than the limited travel specified here

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▪ ***Wildlife***	▪ "I… have deep concerns of the overall direction of this plan regarding wildlife harvest and management."
▪ ***Wildlife***	▪ I advocate predator control and feel that it is a recognized way of maintaining game herds for the purpose of hunting.
▪ ***Wildlife***	▪ "Don't try to disguise predator control as"wildlife enhancement"! Predators are wildlife too, and are not enhanced by having their numbers reduced!"
▪ ***Wildlife***	▪ "We believe the estimated caribou population of 2500 does not reflect the [actual] number… it should be at least 3000… on the research and… counts." ▪ Regarding Stone's Sheep (p. 45, MP 1.0): "Some small bands of Sheep are found south of the Spatsizi Rivers west of the Dawson Range and another small herd is located east of the Ross River." ▪ Regarding Medium to Large Predators (p. 47, MP 1.0): "Please refer to trapper records and First Nations people to clarify the statement that these mammals are found and yes, they have been recorded." ▪ (p. 52, MP 1.0) "Please note that the Marion Creek/Hyland Post sheep herd decreased from 125 to 63 sheep due to heavy wolf predation." ▪ Regarding Predator Management (p. 56 MP 1.0): "What is the term 'artificial enhancement' mean?" ▪ (p. 59, MP 1.0): "Please note that northern caribou herds are not considered a blue-listed species."
▪ ***Wildlife***	▪ "…In Section 7.5.2.6 (MP 1.0), the Latin names for otter, marten and muskrat are incorrect (should be *Lontra Canadensis, Martes Americana,* and *Ondatra zibethicus*, respectively. Also, the pika should be identified as *Ochotona sp.*, [not *princepts*, rather] *collaris* or an as yet unidentified species." ▪ "I was not aware that northern caribou were blue-listed, but have not seen any recent lists." ▪ Regarding 'Wildlife/Human Interactions' (7.5.6, MP 1.0): "It is desirable to avoid certain kinds of encounters in certain seasons, and that is best managed by education and perhaps in some cases by local zoning. Note that the situation is more controllable in the case of guided recreational users than among those that are not."
▪ ***Wildlife***	▪ "I am... concerned about impacts on wildlife... [I feel that there should be policy] limiting the number of large commercial groups..."
▪ ***Wildlife:***	▪ "We have the only intact large mammal predator-prey system in BC. We would like to keep that for posterity, by not allowing the "culling" of predators [which] is about to happen in other areas of the province."
▪ ***Zoning***	▪ 'The Bulkley Valley Rod & Gun Club would like to see the Stikine river and tributaries zoned 'Natural Environment' to protect motorized access."